

# Diff & Merge

| Operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Keystroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Function                                                      | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <div>Diff, Merge &amp; Patch Files within Emacs</div> <div><div>◦ Help &amp; Customization</div><div><div>• Diff files_diff-mode</div><div><div>• move in hunks/files</div><div>• apply/rev changes</div></div></div><div>◦ highlight changes</div><div>• manipulate hunks</div><div>• Ediff</div><div>• Side-by-Side Diff</div><div>◦ Compare Directories</div><div>• Ediff Merge</div><div>• Specialized Ediff</div><div>• Smerge</div><div>◦ Patch files</div></div> <div>See 🔗 <a href="#">VCS-Git</a> xMagit</div> <div><a href="#">🔗 VCS-Mercurial</a></div> <div>Last updated on: 2026-05-03</div> | <div>Emacs has complete support to perform <b>text file diff</b>, 2-way merge and <b>3-way merge</b> operations. It nicely compares to <a href="#">what's available outside Emacs</a>.</div> <div><div>• Emacs has two built-in packages that support comparing files: <b>diff</b> and <b>ediff</b>.</div><div><div>• diff can be used to show a diff file, navigate through it and apply the diff hunk to a file in any direction (apply changes or revert them)</div><div>• ediff is more powerful than diff and more visual, using one buffer per file. ediff supports <b>3-way merge</b> and supports diff of directory trees.</div></div><div><div>• For <b>3-way merge</b> operations Emacs also provides smerge.</div><div><div>• The smerge system is quite useful: if activated by <b>pel-use-smerge</b> set to <i>auto</i>, Emacs will automatically launch smerge when it detects a (D)VCS merge markup inside a file, similar to what <b>Git</b> or <b>Mercurial</b> will do when they cannot automatically complete a merge operation themselves.</div><div>• smerge provides all the commands to perform the merge. If you prefer to use 3 buffers you can invoke ediff directly from smerge.</div><div>• smerge inherit from the older but still supported <b>Emerge</b> built-in package.</div><div>• PEL does not provide key bindings for Emerge as ediff commands are easier to use and more powerful.</div></div></div><div>PEL also provides support for the following extra external packages:</div><div><div> The <b>diffview-mode</b> package provides side-by-side diff format.  PEL activates it when <b>pel-use-diffview</b> is set to <b>t</b>.</div><div> The <b>ztree external package</b> provides a tree-view directory diff.  PEL activates it when <b>pel-use-ztree</b> is set to <b>t</b>.</div></div></div> |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>Open this PDF file.</div> <div>See also: 🔗 <a href="#">Help/Info</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>&lt;f11&gt; d &lt;f1&gt;</div> <div>&lt;f12&gt; &lt;f1&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>(pel-help-pdf &amp;optional OPEN-WEB-PAGE)</div>         | <div>Open the 🔗 <b>Diff &amp; Merge</b> local PDF. If the prefix argument (like <b>C-u</b> or <b>M--</b>) is used, then it opens the remote GitHub hosted raw PDF instead. If the <b>pel-flip-help-pdf-arg</b> user-option is set it's the other way around.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <div>Customize PEL support for diff</div> <div>See also: 🔗 <a href="#">Customize</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div>&lt;f11&gt; d &lt;f2&gt;</div> <div>&lt;f12&gt; &lt;f2&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>(pel-customize-pel &amp;optional OTHER-WINDOW)</div>     | <div>Customize PEL support for diff: smerge, ztree</div> <div>• If OTHER-WINDOW is non-nil (use <b>C-u</b>) , display in other window.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <div>Customize Emacs for specify diff mode</div> <div>• Adjusted for the current diff mode being used</div> <div>See also: 🔗 <a href="#">Customize</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <div>&lt;f12&gt; &lt;f3&gt;</div> <div>&lt;f11&gt; d &lt;f3&gt;</div> <div>&lt;f11&gt; d e &lt;f3&gt;</div> <div>&lt;f11&gt; d s &lt;f3&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>(pel-customize-library &amp;optional OTHER-WINDOW)</div> | <div>Customize Emacs support for currently active diff mode.</div> <div>For this &amp; following: If OTHER-WINDOW non-nil (<b>C-u</b>) , display in other window.</div> <div>Customize Emacs support for diff, ediff, emerge, smerge, ztree.</div> <div>Customize Emacs ediff.</div> <div>Customize Emacs smerge</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <div><a href="#">Diff</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>The <b>diff-mode</b> provides a set of commands to compare files and buffers. This mode is used when the buffer holds a patch file created by various tools. Use the following commands to compare files and buffers and enter the diff-mode. See the commands provided by the diff-mode below.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>Compare 2 files</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div>&lt;f11&gt; d f</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <div>(diff OLD NEW &amp;optional SWITCHES NO-ASYNC)</div>     | <div>Find and display the differences between OLD and NEW files.</div> <div>• Prompt for NEW, then OLD files.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <div>Compare file with its backup</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>&lt;f11&gt; d k</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <div>(diff-backup FILE &amp;optional SWITCHES)</div>          | <div>Diff this file with its backup file or vice versa.</div> <div><div>• Uses the latest backup, if there are several numerical backups.</div><div>• If this file is a backup, diff it with its original.</div><div>• The backup file is the first file given to 'diff'.</div><div>• With prefix arg, prompt for diff switches.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <div>Compare buffer and associated file</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <div>• &lt;f11&gt; d b</div> <div>• &lt;f11&gt; b =</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>(diff-buffer-with-file &amp;optional BUFFER)</div>       | <div>View the differences between BUFFER and its associated file.</div> <div>See also 🔗 <a href="#">Buffers</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <div>Compare current and other window</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>&lt;f11&gt; d w</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <div>(compare-windows IGNORE-WHITESPACE)</div>                | <div>Compare text in current window with text in another window.</div> <div><div>• The <b>compare-windows-get-window-function</b> user option defines how to get another window. Set to <i>compare-windows-get-recent-window</i> by default.</div><div>• Compares the text starting at point in each window, moving over text in each one as far as they match.</div><div>• This command pushes the mark in each window at the prior location of point in that window.</div><div>• If both windows display the same buffer, the mark is pushed twice in that buffer: first in the other window, then in the selected window.</div><div>👉 Use this for simple comparison between 2 windows just to see if they have the same content.</div><div>• Split your frame in 2 windows, loaded with the buffer of the files you want to compare.</div><div>• Place point at the top of each buffer and issue the command.</div><div>• Point will be moved to the first difference in both window. If there is no difference point will be moved at the end of each window.</div></div> |
| <div><a href="#">diff-mode</a> commands</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <div>Use the following commands in a buffer using the <a href="#">diff-mode</a> major mode to manipulate the patch diff file and the <a href="#">diff hunks</a>.</div> <div>👉 The following commands are also available from the Diff menu on the menu-bar accessible via the <b>&lt;f10&gt;</b> key. See 🔗 <a href="#">Menus</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>diff-mode setup</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div>&lt;f12&gt; &lt;f4&gt; ?</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>(pel-diff-show-status)</div>                             | <div>Display diff-mode status info in mini-buffer: whether it jumps to new or old source.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>Toggle Next-Error-Follow minor mode</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <div>C-c C-f</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>(next-error-follow-minor-mode &amp;optional ARG)</div>   | <div>Minor mode for compilation, occur and diff modes.</div> <div><div>• With a prefix argument ARG, enable mode if ARG is positive, and disable it otherwise. If called from Lisp, enable mode if ARG is omitted or nil.</div><div>• When turned on, cursor motion in the compilation, grep, occur or diff buffer causes automatic display of the corresponding source code location.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <div>Jump to source file</div> <div>• open source of current hunk in a new window</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>C-c C-c</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>(diff-goto-source &amp;optional OTHER-FILE EVENT)</div>  | <div>Jump to the corresponding source line.</div> <div><div>• 'diff-jump-to-old-file' (or its opposite if the OTHER-FILE prefix arg is given) determines whether to jump to the <b>old</b> or the <b>new</b> file.</div><div>• If the prefix arg is bigger than 8 (for example with <b>C-u C-u</b>) then 'diff-jump-to-old-file' is also set, for the next invocations. Use <b>&lt;f12&gt; &lt;f4&gt; ?</b> to see status.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <div>To next hunk</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>• M-n</div> <div>• C-M-i</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>(diff-hunk-next &amp;optional COUNT)</div>               | <div>Go to the next COUNT'th hunk.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <div>To previous hunk</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>• M-p</div> <div>• &lt;Esc&gt; &lt;backtab&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>(diff-hunk-prev &amp;optional COUNT)</div>               | <div>Go to the previous COUNT'th hunk</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <div>To next file</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <div>• M-}</div> <div>• M-N</div> <div>• &lt;f6&gt; &lt;down&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <div>(diff-file-next &amp;optional COUNT)</div>               | <div>Go to the next COUNT'th file.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <div>To previous file</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>• M-{</div> <div>• M-P</div> <div>• &lt;f6&gt; &lt;up&gt;</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div>(diff-file-prev &amp;optional COUNT)</div>               | <div>Go to the previous COUNT'th file</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <div>Show all files present in diff inside an <a href="#">occur</a> buffer</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <div>&lt;f6&gt; o</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <div>(pel-diff-hunk-files-occur &amp;optional NLINES)</div>   | <div>Show hunk files of current path patch inside an occur buffer.</div> <div><div>• Each line shown with NLINES before &amp; after, or -NLINES before if NLINES &lt; 0.</div><div>• NLINES defaults to 0, overriding list-matching-lines-default-context-lines.</div><div>• If a region is defined the search is restricted to the region. See <a href="#">occur search</a>.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <div>Restrict view to current hunk or file</div> <div>See 🔗 <a href="#">Narrowing</a></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>C-c C-n</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>(diff-restrict-view &amp;optional ARG)</div>             | <div>Restrict the view to the current hunk. This is a <a href="#">buffer narrowing type</a> of command.</div> <div><div>• If the prefix ARG is given, restrict the view to the current file instead.</div><div>• Use <b>C-x n w</b> to widen the buffer back.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <div>Apply current hunk to source file</div> <div>★★</div> <div>• Reverse a change</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>C-c C-a</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>(diff-apply-hunk &amp;optional REVERSE)</div>            | <div>Apply <i>current hunk (not all hunks for the file!)</i> to the source file and go to the next.</div> <div><div>• By default, the new source file is patched, but if the variable 'diff-jump-to-old-file' is non-nil, then the old source file is patched instead.</div><div>• 👉 With a <b>C-u</b> prefix argument, REVERSE the hunk, to discard a change!</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <div>Apply diff with Ediff</div> <div>★★</div> <div>👉 Apply VCS commit set to another (set of) file(s)</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <div>C-c C-e</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>(diff-ediff-patch)</div>                                 | <div>Call 'ediff-patch-file' on the current buffer:</div> <div>Query for a file name, and then run Ediff by patching that file. If several files are in the diff, the Ediff buffer creates one session for each.</div> <div><div>• If optional PATCH-BUF is given, use the patch in that buffer &amp; don't ask user.</div><div>• If prefix argument ARG, then: if even argument, assume that the patch is in a buffer. If odd -- assume it is in a file.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Operation                                      | Keystroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Function                                                                                                                                                                                                                              | Note                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Highlight changes in hunk                      | C-c C-b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-refine-hunk)                                                                                                                                                                                                                    | Highlight changes of hunk at point at a finer granularity.                                                                                                                                                                                                                                                                                                                                                            |
| Test if hunk can be applied                    | C-c C-t                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-test-hunk &optional REVERSE)                                                                                                                                                                                                    | See whether it's possible to apply the current hunk. With a prefix argument, try to REVERSE the hunk.                                                                                                                                                                                                                                                                                                                 |
| Convert unified diff to context diff           | C-c C-d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-unified->context START END)                                                                                                                                                                                                     | Convert unified diffs to context diffs. <ul style="list-style-type: none"><li>START and END are either taken from the region (if a prefix arg is given) or else cover the whole buffer.</li></ul>                                                                                                                                                                                                                     |
| Reverse direction of diff                      | C-c C-r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-reverse-direction START END)                                                                                                                                                                                                    | Reverse the direction of the diffs. <ul style="list-style-type: none"><li>START and END are either taken from the region (if a prefix arg is given) or else cover the whole buffer.</li></ul>                                                                                                                                                                                                                         |
| Split hunk                                     | C-c C-s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-split-hunk)                                                                                                                                                                                                                     | Split the current (unified diff) hunk at point into two hunks.<br>👉 Useful when you want to apply or revert only one part of it.                                                                                                                                                                                                                                                                                      |
| Convert context diff to unified diff           | C-c C-u                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-context->unified START END &optional TO-CONTEXT)                                                                                                                                                                                | Convert context diffs to unified diffs. <ul style="list-style-type: none"><li>START and END are either taken from the region (when it is highlighted) or else cover the whole buffer.</li><li>With a prefix argument, convert unified format to context format.</li></ul>                                                                                                                                             |
| Re-diff current hunk, ignore whitespace        | C-c C-w                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diff-ignore-whitespace-hunk)                                                                                                                                                                                                         | Re-diff the current hunk, ignoring whitespace differences.                                                                                                                                                                                                                                                                                                                                                            |
| Re-diff all hunks, ignore whitespace           | <f6> w                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | (pel-diff-ignore-whitespace-in-hunks)                                                                                                                                                                                                 | Re-diff <b>all</b> hunks in buffer, ignoring whitespace differences.                                                                                                                                                                                                                                                                                                                                                  |
| 💡 Save diff to a patch file                    | C-x C-w                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"><li>(write-file FILENAME &amp;optional CONFIRM)</li><li>(ido-write-file)</li></ul>                                                                                                                  | Similar to “Save-As”: prompt for the filename and save the buffer content to a file. Select .diff or .patch for patch file extensions.                                                                                                                                                                                                                                                                                |
| Ediff                                          | <div>Ediff sessions have several commands, shown in the Ediff Quick Help buffer. They create <b>diff-mode</b> buffers (see command above).<ul style="list-style-type: none"><li>Type <b>? </b> to toggle Ediff Quick Help from 1 line to multiple that shows all available commands.</li><li>For more info about a command, place point on the command character and type <b>RET</b>: Emacs will open the <b>Ediff Quick Help Commands Info</b> buffer.</li></ul></div> <div>👉 While showing 2 or 3 buffer/files in windows Ediff provides the <b>▼/▼</b> keys for scrolling up/down.</div> <div>PEL scroll sync commands (<b>&lt;f11&gt;  </b>) can also be used to provide single line scroll between synced windows.</div> |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| See also:                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • <a href="#">🔗 Scrolling</a>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • <a href="#">🔗 Help/Info</a>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                | Ediff is a major mode. As for all major modes, you can display help for the mode with describe-mode bound to <b>C-h m</b> and <b>&lt;f1&gt; m</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Display Ediff Manual                           | <f11> d e ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (ediff-documentation &optional NODE)                                                                                                                                                                                                  | Display Ediff’s manual. <ul style="list-style-type: none"><li>With optional NODE, goes to that node.</li></ul>                                                                                                                                                                                                                                                                                                        |
| Ediff 2 files (or buffers)                     | <f11> d 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (pel-ediff-2files &optional N)                                                                                                                                                                                                        | Run ediff-files on the files or buffers of current and the other window. <ul style="list-style-type: none"><li>Select the current window and the other without prompting.</li><li>With numeric argument if N is in [2,8] range, select other window identified by the direction corresponding to the cursor in a numeric keypad:<div>8 := 'up<br/>4 := 'left 5 := 'current 6 := 'right<br/>2 := 'down</div></li></ul> |
| ★★                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Display registry of active Ediff sessions      | <f11> d e R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"><li>(eregistry)</li><li>(ediff-show-registry)</li></ul>                                                                                                                                             | Display registry of all active Ediff sessions.                                                                                                                                                                                                                                                                                                                                                                        |
| Ediff file against previous revision           | <f11> d r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (pel-ediff-revisions)                                                                                                                                                                                                                 | Run ediff-revision on the file in the current window. <ul style="list-style-type: none"><li>Prompts for revisions, default to current copy and last commit.</li></ul>                                                                                                                                                                                                                                                 |
| Compare buffer with its file on disk           | <ul style="list-style-type: none"><li>• &lt;f11&gt; d e b f</li><li>• &lt;f11&gt; b M-=</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (ediff-current-file)                                                                                                                                                                                                                  | Compare the buffer with its file on disk. This function can be used as a safe version of revert-buffer. See also <a href="#">🔗 Buffers</a>                                                                                                                                                                                                                                                                            |
| Compare 2 buffers                              | <f11> d e b b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-buffers BUFFER-A BUFFER-B &optional STARTUP-HOOKS JOB-NAME)                                                                                                                                                                    | Compare 2 buffers. <ul style="list-style-type: none"><li>Prompts for buffer A and buffer B</li></ul>                                                                                                                                                                                                                                                                                                                  |
| Compare 3 buffers                              | <f11> d e b 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-buffers3 BUFFER-A BUFFER-B BUFFER-C &optional STARTUP-HOOKS JOB-NAME)                                                                                                                                                          | Compare 3 buffers. <ul style="list-style-type: none"><li>Prompts for buffer A, buffer B and buffer C.</li></ul>                                                                                                                                                                                                                                                                                                       |
| Compare file with its backup                   | <f11> d e f k                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-backup FILE)                                                                                                                                                                                                                   | Compare a file with its backup. If there are several numerical backups, use the latest. <ul style="list-style-type: none"><li>If the file is itself a backup, then compare it with its original.</li></ul>                                                                                                                                                                                                            |
| 🔗 Autosave/backup                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Compare 2 files                                | <f11> d e f f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"><li>• (ediff FILE-A FILE-B &amp;optional STARTUP-HOOKS)</li><li>• (ediff-files FILE-A FILE-B &amp;optional STARTUP-HOOKS)</li></ul>                                                                 | Compare 2 files. Uses either diff or ediff-files. <ul style="list-style-type: none"><li>Prompts for file A and B.</li><li>PEL provide a shortcut function <b>pel-ediff-2files</b> mapped to <b>&lt;f11&gt; d 2</b> which does not prompt. See above.</li></ul>                                                                                                                                                        |
| Compare 3 files                                | <f11> d e f 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"><li>• (ediff3 FILE-A FILE-B FILE-C &amp;optional STARTUP-HOOKS)</li><li>• (ediff-files3 FILE-A FILE-B FILE-C &amp;optional STARTUP-HOOKS)</li></ul>                                                 | Compare 3 files. <ul style="list-style-type: none"><li>Prompts for file A, B and C.</li></ul>                                                                                                                                                                                                                                                                                                                         |
| Compare revision of buffer with file revision  | <f11> d e f r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-revision &optional FILE STARTUP-HOOKS)                                                                                                                                                                                         | Compare versions of the current buffer, if the buffer is visiting a file under VCS. <ul style="list-style-type: none"><li>Prompts for the file name and each of its revisions.</li><li>PEL provide a shortcut function <b>pel-ediff-revision</b> mapped to <b>&lt;f11&gt; d r</b>.</li></ul>                                                                                                                          |
| Compare versions of files in a given directory | <f11> d e d r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"><li>• (edir-revisions DIR1 REGEXP)</li><li>• (ediff-directory-revisions DIR1 REGEXP)</li></ul>                                                                                                      | Compare versions of files in a given directory. <ul style="list-style-type: none"><li>Ediff selects only the files that are under version control.</li><li>Prompts for directory and regexp to identify files: if empty: selects all files.</li></ul>                                                                                                                                                                 |
| Compare text in 2 windows word-by-word         | <f11> d e w w                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-windows-wordwise DUMB-MODE &optional WIND-A WIND-B STARTUP-HOOKS)                                                                                                                                                              | Compare text visible in 2 windows word-by-word. <ul style="list-style-type: none"><li>Uses current and other (next) window.</li></ul>                                                                                                                                                                                                                                                                                 |
| Compare text in 2 windows line-by-line         | <f11> d e w l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-windows-linewise DUMB-MODE &optional WIND-A WIND-B STARTUP-HOOKS)                                                                                                                                                              | Compare text visible in 2 windows line-by-line. <ul style="list-style-type: none"><li>Uses current and other (next) window.</li></ul>                                                                                                                                                                                                                                                                                 |
| Compare 2 regions word-by-word                 | <f11> d e r w                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-regions-wordwise BUFFER-A BUFFER-B &optional STARTUP-HOOKS)                                                                                                                                                                    | Compare text visible in 2 regions word-by-word. <ul style="list-style-type: none"><li>Prompts for the 2 buffers and regions.</li></ul>                                                                                                                                                                                                                                                                                |
| Compare 2 regions line-by-line                 | <f11> d e r l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (ediff-regions-linewise BUFFER-A BUFFER-B &optional STARTUP-HOOKS)                                                                                                                                                                    | Compare text visible in 2 regions line-by-line. <ul style="list-style-type: none"><li>Prompts for the 2 buffers and regions.</li></ul>                                                                                                                                                                                                                                                                                |
| Side-by-Side Diff                              | Using  <b>diffview-mode</b> package  PEL activates it when <b>pel-use-diffview</b> is set to <b>t</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| During that mode:                              | <ul style="list-style-type: none"><li>• <b>}</b> : Next file</li><li>• <b>{</b> : Previous file</li><li>• <b>l</b> : Align windows</li><li>• <b>q</b> : Quit</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"><li>• With PEL, use <b>pel-toggle-scroll-sync</b>, mapped to <b>&lt;f11&gt;    </b> to scroll both windows. 🐛🚧⚠️ Use with care: scrolling seems to stick. See <a href="#">🔗 Scrolling</a></li></ul> | <ul style="list-style-type: none"><li>• To return to the original window layout you can use <b>winner-undo &lt;f11&gt; w p</b>, with PEL.</li><li>• See <a href="#">🔗 Windows (end of page 4)</a></li></ul>                                                                                                                                                                                                           |
| current buffer                                 | <f11> d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (diffview-current)                                                                                                                                                                                                                    | Show current diff buffer in a side-by-side view.                                                                                                                                                                                                                                                                                                                                                                      |
| current region                                 | <f11> d M-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (diffview-region)                                                                                                                                                                                                                     | Show current diff region in a side-by-side view.                                                                                                                                                                                                                                                                                                                                                                      |

| Operation                                                                                  | Keystroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                           | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Note |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Compare Directories                                                                        | The built-in Ediff can compare 2 or 3 directories.<br>📁 The <b>ztree external package</b> provides a tree-view directory diff. 📌 PEL activates it when <b>pel-use-ztree</b> is set to <b>t</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
| Compare common files in 2 directories                                                      | <f11> d e d d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edirs DIR1 DIR2 REGEXP)</li><li>(ediff-directories DIR1 DIR2 REGEXP)</li></ul>                                                                                                                                                     | Compare files common to two directories. <ul style="list-style-type: none"><li>Prompts for directory A &amp; B and a regexp to identify files. If empty: select all files.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| Compare common files in 3 directories                                                      | <f11> d e d 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edirs3 DIR1 DIR2 DIR3 REGEXP)</li><li>(ediff-directories3 DIR1 DIR2 DIR3 REGEXP)</li></ul>                                                                                                                                         | Compare files common to three directories. <ul style="list-style-type: none"><li>Prompts for directory A, B and C and a regexp to identify files: if empty: selects all files.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
| Compare 2 directories with ztree-diff                                                      | <f11> d z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (ztree-diff DIR1 DIR2)                                                                                                                                                                                                                                                    | Open an interactive buffer with the directory tree of the path given, and highlight of file differences between the directories. DIR1 := left directory. DIR2:=right directory <ul style="list-style-type: none"><li>Interactively: prompts for the 2 directories.</li></ul> 📁 Requires the <b>ztree external package</b> . 📌 PEL activates it if <b>pel-use-ztree</b> is <b>t</b> .                                                                                                                                                                                                                                                   |      |
| Ztree Diff buffer keys: <ul style="list-style-type: none"><li>Ediff 2 files ▾</li></ul>    | <ul style="list-style-type: none"><li>&lt;SPACE&gt; : Open/close directory</li><li>&lt;TAB&gt; : switch between panels</li><li>&lt;RET&gt; : Open/close directory   Ediff 2 files /open orphan file</li><li>x : Toggle expand/collapse of all nodes of the subtree.<br/>⚠️ Use x with care! On large directory trees it may take a long time. I have see Emacs hang when typing x again during that time.</li><li>&lt;f5&gt; : force full rescan, re-write buffer (useful when changing window size).</li></ul>                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"><li>C : copy current file/directory to the directory shown in the other side (prompts)</li><li>D : delete current file/directory (prompts)</li><li>h : toggle display of identical files/directories.</li><li>H : toggle display of filtered files.</li><li>r : rescan/refresh current file/directory</li><li>v : visit current file in view-mode . In view-mode the following keys are available (see 📖 Buffers for a complete list):<ul style="list-style-type: none"><li>q: quit view-mode and return to Ztree Diff</li><li>e: leave view-mode, edit/visit the file normally.</li></ul></li></ul> |      |
| Ediff Merge                                                                                | Use the following commands to perform 3-way merges within Emacs using the merge capability of the ediff built-in package.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
| Merge 2 files                                                                              | <f11> d e m f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(ediff-merge FILE-A FILE-B &amp;optional STARTUP-HOOKS MERGE-BUFFER-FILE)</li><li>(ediff-merge-files FILE-A FILE-B &amp;optional STARTUP-HOOKS MERGE-BUFFER-FILE)</li></ul>                                                         | Merge two files without ancestor. <ul style="list-style-type: none"><li>Prompt for FILE-A and FILE-B, the names of the files to be merged.</li><li>The result is stored into an "ediff-merge" buffer, not a file.<ul style="list-style-type: none"><li>Save it into a file with C-x C-s. See <b>screenshot example in PEL manual</b>.</li></ul></li></ul>                                                                                                                                                                                                                                                                              |      |
| Merge 2 files with ancestor                                                                | <f11> d e m F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(ediff-merge-with-ancestor FILE-A FILE-B FILE-ANCESTOR &amp;optional STARTUP-HOOKS MERGE-BUFFER-FILE)</li><li>(ediff-merge-files-with-ancestor FILE-A FILE-B FILE-ANCESTOR &amp;optional STARTUP-HOOKS MERGE-BUFFER-FILE)</li></ul> | Merge two files with ancestor. <ul style="list-style-type: none"><li>Prompt for FILE-A and FILE-B, the names of the files to be merged, and FILE-ANCESTOR, the name of the ancestor file.</li><li>The result is stored into an "ediff-merge" buffer, not a file.<ul style="list-style-type: none"><li>Save it into a file with C-x C-s. See <b>screenshot example in PEL manual</b>.</li></ul></li></ul>                                                                                                                                                                                                                               |      |
| Merge 2 buffers                                                                            | <f11> d e m b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (ediff-merge-buffers BUFFER-A BUFFER-B &optional STARTUP-HOOKS JOB-NAME MERGE-BUFFER-FILE)                                                                                                                                                                                | Merge buffers without ancestor. <ul style="list-style-type: none"><li>Prompt for BUFFER-A and BUFFER-B, the buffers to be merged.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| Merge 2 buffers with ancestor                                                              | <f11> d e m B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (ediff-merge-buffers-with-ancestor BUFFER-A BUFFER-B BUFFER-ANCESTOR &optional STARTUP-HOOKS JOB-NAME MERGE-BUFFER-FILE)                                                                                                                                                  | Merge buffers with ancestor. <ul style="list-style-type: none"><li>Prompts for BUFFER-A and BUFFER-B, the buffers to be merged, and BUFFER-ANCESTOR, their ancestor.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |
| Merge versions of files in a directory                                                     | <f11> d e m d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edir-merge-revisions DIR1 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li><li>(ediff-merge-directory-revisions DIR1 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li></ul>                                                              | Merge versions of files in a given directory. <ul style="list-style-type: none"><li>Ediff selects only the files that are under version control.</li><li>Prompts for directory and regexp to identify files: if empty: selects all files.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                    |      |
| Merge versions of files in a directory using other versions as their ancestors             | <f11> d e m D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edir-merge-revisions-with-ancestor DIR1 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li><li>(ediff-merge-directory-revisions-with-ancestor DIR1 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li></ul>                                  | Merge versions of files in a given directory using other versions as ancestors. <ul style="list-style-type: none"><li>Ediff selects only the files that are under version control.</li><li>Prompts for directory and regexp to identify files: if empty: selects all files.</li></ul>                                                                                                                                                                                                                                                                                                                                                  |      |
| Merge file commons to 2 directories                                                        | <f11> d e m c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edirs-merge DIR1 DIR2 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li><li>(ediff-merge-directories DIR1 DIR2 REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li></ul>                                                                     | Merge files common to two directories. <ul style="list-style-type: none"><li>Run Ediff on a pair of directories, DIR1 and DIR2, merging files that have the same name in both.</li><li>The third argument, REGEXP, is nil or a regular expression; only file names that match the regexp are considered.</li><li>MERGE-AUTOSTORE-DIR is the directory in which to store merged files.</li></ul>                                                                                                                                                                                                                                        |      |
| Merge file commons to 2 directories with ancestors                                         | <f11> d e m C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"><li>(edirs-merge-with-ancestor DIR1 DIR2 ANCESTOR-DIR REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li><li>(ediff-merge-directories-with-ancestor DIR1 DIR2 ANCESTOR-DIR REGEXP &amp;optional MERGE-AUTOSTORE-DIR)</li></ul>               | Merge files in directories DIR1 and DIR2 using files in ANCESTOR-DIR as ancestors. <ul style="list-style-type: none"><li>Ediff merges files that have identical names in DIR1, DIR2.</li><li>If a pair of files in DIR1 and DIR2 doesn't have an ancestor in ANCESTOR-DIR, Ediff will merge without ancestor.</li><li>The fourth argument, REGEXP, is nil or a regular expression; only file names that match the regexp are considered.</li></ul>                                                                                                                                                                                     |      |
| Merge 2 versions of visited file                                                           | <f11> d e m r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (ediff-merge-revisions &optional FILE STARTUP-HOOKS MERGE-BUFFER-FILE)                                                                                                                                                                                                    | Merge two versions of the file visited by the current buffer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |
| Merge 2 versions of visited file with ancestor                                             | <f11> d e m R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (ediff-merge-revisions-with-ancestor &optional FILE STARTUP-HOOKS MERGE-BUFFER-FILE)                                                                                                                                                                                      | Merge two versions of the file visited by the current buffer with ancestor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| Specialized Ediff                                                                          | Some packages provide specialization of Ediff-based comparisons.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
| ParInfer EDiff<br>Diff current code before/.after ParInfer modifications<br>🔗 - Emacs Lisp | <ul style="list-style-type: none"><li>&lt;f12&gt; a D</li><li>&lt;f11&gt; SPC l a D</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (parinfer-diff)                                                                                                                                                                                                                                                           | Diff current code and the code after applying Indent Mode in Ediff. Use this to browse and apply the changes.<br>📁 Requires <b>parinfer external</b> package. 📌 PEL activates it when <b>pel-use-parinfer</b> is set to <b>t</b> .                                                                                                                                                                                                                                                                                                                                                                                                     |      |
| Smerge                                                                                     | Use the built-in smerge package to edit files that contain 3-way merge conflict annotations placed by a 3-way merge operation that requires your input. Start the merge session by executing the smerge-start-session or have it start <ul style="list-style-type: none"><li>If you want to automatically launch a smerge session on files that contain diff conflict annotations, set <b>pel-use-smerge</b> to auto.<ul style="list-style-type: none"><li>Conflict annotation string is a string like “&lt;&lt;&lt;&lt;&lt;&lt;&lt;&lt;” that starts at the beginning of a line.</li></ul></li></ul> When a merge session is active: <ul style="list-style-type: none"><li>the merge menu is available. See 📖 Menus</li><li>with PEL, the &lt;f6&gt; s key acts as a prefix to the smerge commands.</li></ul> |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
| Start a smerge session                                                                     | <f11> d s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (smerge-start-session)                                                                                                                                                                                                                                                    | Turn on 'smerge-mode' and move point to first conflict marker. If no conflict maker is found, turn off 'smerge-mode'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |
| Move to next conflict                                                                      | <ul style="list-style-type: none"><li>C-c ^ n</li><li>&lt;f6&gt; s n</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (smerge-next &optional COUNT)                                                                                                                                                                                                                                             | Go to the next COUNT'th conflict.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |
| Move to previous conflict                                                                  | <ul style="list-style-type: none"><li>C-c ^ p</li><li>&lt;f6&gt; s p</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (smerge-prev &optional COUNT)                                                                                                                                                                                                                                             | Go to the previous COUNT'th conflict                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |
| Keep all                                                                                   | <ul style="list-style-type: none"><li>C-c ^ a</li><li>&lt;f6&gt; s a</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (smerge-keep-all)                                                                                                                                                                                                                                                         | Concatenate all versions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
| Revert to base                                                                             | <ul style="list-style-type: none"><li>C-c ^ b</li><li>&lt;f6&gt; s b</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (smerge-keep-base)                                                                                                                                                                                                                                                        | Revert to the base version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| Keep current                                                                               | <ul style="list-style-type: none"><li>C-c ^ RET</li><li>&lt;f6&gt; s RET</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (smerge-keep-current)                                                                                                                                                                                                                                                     | Use the current (under the cursor) version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |

| Operation                     | Keystroke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Function                                                                                                                                                | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keep upper                    | <ul style="list-style-type: none"> <li>C-c ^ u</li> <li>&lt;f6&gt; s u</li> <li>C-c ^ m</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (smerge-keep-upper)                                                                                                                                     | Keep the "upper" version of a merge conflict. Keep “UUU” in following conflict:<br><<<<<<<br>UUU<br><br>=====<br>LLL<br>>>>>>><br><br>Keep the "lower" version of a merge conflict. Keep “LLL” in the above conflict.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Keep lower                    | <ul style="list-style-type: none"> <li>C-c ^ l</li> <li>&lt;f6&gt; s l</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (smerge-keep-lower)                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Auto-combine                  | <f6> s M-c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (smerge-auto-combine)                                                                                                                                   | Automatically combine conflicts that are near each other.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Combine with next             | <ul style="list-style-type: none"> <li>C-c ^ C</li> <li>&lt;f6&gt; s C</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (smerge-combine-with-next)                                                                                                                              | Combine the current conflict with the next one.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Diff base & lower             | <ul style="list-style-type: none"> <li>C-c ^ = &gt;</li> <li>&lt;f6&gt; s &gt;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (smerge-diff-base-lower)                                                                                                                                | Diff ‘base’ and ‘lower’ version in current conflict region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Diff base & upper             | <ul style="list-style-type: none"> <li>C-c ^ = &lt;</li> <li>&lt;f6&gt; s &lt;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (smerge-diff-base-upper)                                                                                                                                | Diff ‘base’ and ‘upper’ version in current conflict region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Diff upper & lower            | <ul style="list-style-type: none"> <li>C-c ^ = =</li> <li>&lt;f6&gt; s =</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (smerge-diff-upper-lower)                                                                                                                               | Diff ‘upper’ and ‘lower’ version in current conflict region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Invoke ediff                  | <ul style="list-style-type: none"> <li>C-c ^ E</li> <li>&lt;f6&gt; s e</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (smerge-ediff &optional NAME-UPPER NAME-LOWER NAME-BASE)                                                                                                | Invoke ediff to resolve the conflicts. NAME-UPPER, NAME-LOWER, and NAME-BASE, if non-nil, are used for the buffer names.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Remove current                | <f6> s M-k                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (smerge-kill-current)                                                                                                                                   | Remove the current (under the cursor) version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Insert diff3 conflict markers | <f6> s M-C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (smerge-makeup-conflict PT1 PT2 PT3 &optional PT4)                                                                                                      | Insert diff3 markers to make a new conflict. <ul style="list-style-type: none"> <li>Use point &amp; mark for 2 of the relevant positions and previous marks for the other ones.</li> <li>By default, makes up a 2-way conflict, with C-u prefix, makes up a 3-way conflict.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Refine highlight              | <ul style="list-style-type: none"> <li>C-c ^ R</li> <li>&lt;f6&gt; s R</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (smerge-refine &optional PART)                                                                                                                          | Highlight the words of the conflict that are different. <ul style="list-style-type: none"> <li>For 3-way conflicts, highlights only two of the three parts.</li> <li>A numeric argument PART can be used to specify which two parts;</li> <li>repeating the command will highlight other two parts.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Resolve conflict at point     | <ul style="list-style-type: none"> <li>C-c ^ r</li> <li>&lt;f6&gt; s r</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (smerge-resolve &optional SAFE)                                                                                                                         | Resolve the conflict at point intelligently. <ul style="list-style-type: none"> <li>This relies on mode-specific knowledge and thus only works in some major modes.</li> <li>Uses ‘smerge-resolve-function’ to do the actual work.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Resolve all conflicts         | <f6> s M-r                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (smerge-resolve-all)                                                                                                                                    | Perform automatic resolution on all conflicts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Swap upper and lower          | <f6> s M-s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (smerge-swap)                                                                                                                                           | Swap the "Upper" and the "Lower" chunks. <ul style="list-style-type: none"> <li>Can be used before things like ‘smerge-keep-all’ or ‘smerge-resolve’ where the ordering can have some subtle influence on the result, such as preferring the spacing of the "Lower" chunk.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Patch files                   | Emacs supports <a href="#">merging a patch</a> into a local file or a buffer. <ul style="list-style-type: none"> <li>Patch files can be created by Emacs using diff and other tools. Patch are normally using the <a href="#">unified diff format</a>. See the above sections for commands that can create patch files.</li> <li>You can create patch files by typing C-x C-w from a <a href="#">diff-mode</a> buffer. You can also create patch files from the command line.</li> <li>The Emacs manual section on <a href="#">Sending Patches on GNU Emacs</a> provides the following useful bit of information:               <ul style="list-style-type: none"> <li>Use 'diff -u -F'^[_a-zA-Z0-9\$]\'+ *( '') when making diffs of C code. This shows the name of the function that each change occurs in.</li> <li>Use 'diff -u' to make your diffs. Diffs without context are hard to install reliably.</li> </ul> </li> <li>The Emacs commands you can use to apply a patch to a file are described below.</li> </ul> |                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Patch file(s) and compare     | <f11> d e p f<br><f11> d p f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>(epatch &amp;optional ARG PATCH-BUF)</li> <li>(ediff-patch-file &amp;optional ARG PATCH-BUF)</li> </ul>          | Query for a file name, and then run Ediff by patching that file. <ul style="list-style-type: none"> <li>If optional PATCH-BUF is given, use the patch in that buffer and don't ask the user.</li> <li>If prefix argument ARG, then: if even argument, assume that the patch is in a buffer. If odd -- assume it is in a file.</li> </ul> If a hunk cannot be applied, describe the problem inside the *ediff-message* buffer. <ul style="list-style-type: none"> <li>It also creates a reject file that describes the hunk that could not be applied. The file is stored inside the same directory as the target file, uses the same file name with '.rej' appended to the file name. This may happen if a hunk describes an addition that is already present inside the target file.</li> </ul> |
| Patch a buffer then compare   | <f11> d e p b<br><f11> d p b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>(epatch-buffer &amp;optional ARG PATCH-BUF)</li> <li>(ediff-patch-buffer &amp;optional ARG PATCH-BUF)</li> </ul> | Run Ediff by patching the buffer specified at prompt. <ul style="list-style-type: none"> <li>Without the optional prefix ARG, asks if the patch is in some buffer and prompts for the buffer or a file, depending on the answer.</li> <li>With ARG=1, assumes the patch is in a file and prompts for the file.</li> <li>With ARG=2, assumes the patch is in a buffer and prompts for the buffer.</li> <li>PATCH-BUF is an optional argument, which specifies the buffer that contains the patch. If not given, the user is prompted according to the prefix argument.</li> </ul>                                                                                                                                                                                                                 |

## Diff & Merge — References

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|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                 |                                                                                                                                                               |
| <a href="#">emacs vdiff github project</a>                      |                                                                                                                                                               |
| <a href="#">Using Emacs as a merge program @ Mercurial Wiki</a> |                                                                                                                                                               |
| <a href="#">GNU Emacs Ediff Manual</a>                          | Describes built-in Ediff: file diff of 2 or 3 files, 3-way merge, diff with backup, directory level diffs, version control aware...                           |
| <a href="#">vdiff.el</a>                                        | Github home of vdiff.el, a package that implements a diff tool similar to vimdiff.                                                                            |
|                                                                 |                                                                                                                                                               |
| Diff Patch                                                      | <ul style="list-style-type: none"> <li><a href="#">patch @ Wikipedia</a> provides a good and concise introduction to the concept of diff and patch</li> </ul> |
| Handling Patch Rejects                                          |                                                                                                                                                               |
|                                                                 |                                                                                                                                                               |