

Emacs support for C3

Description	Keystroke	Function	Note
C3 Support	C3 is a programming language based off the C language. It is relatively new and still evolving.		
• File associations	PEL supports the only supported mode for C3: the tree-sitter -based c3-ts-mode provided by the external c3-ts-mode package.		
	📦 Requires the c3-ts-mode file 📄 PEL installs it in the utils directory when pel-use-c3 user-option is set to t .		
	• PEL associates the files with the .c3, .c3i and .c3t file extensions with c3-ts-mode .		
	⚠️ PEL support for C3 requires Emacs >= 30.1 because tree-sitter is required by c3-ts-mode , and PEL only support tree-sitter for Emacs >= 30.1 : • See 🌲 Tree Sitter and 🌲 Tree-sitter. • PEL activates 🌲 Speedbar support for the C3 files when pel-use-speedbar user-option is on (set to t). • imenu support provided by c3-ts-mode is available.		
Last updated on:	2025-12-30		
Open this PDF file. See also: 🌲 Help/Info	<f11> SPC M-G <f1>	(pel-help-pdf &optional OPEN-WEB-PAGE)	Open the 🌲 L - C3 local PDF. If the prefix argument (like C-u or M--) is used, then it opens the remote GitHub hosted raw PDF instead. If the pel-flip-help-pdf-arg user-option is set it's the other way around.
	<f12> <f1>		
🌲 Customize PEL C3 support	<f11> SPC M-G <f2>	(pel-customize-pel &optional OTHER-WINDOW)	Customize PEL C3 support.
	<f12> <f2>		• If OTHER-WINDOW is non-nil (use C-u), display in another window.
🌲 Customize Emacs C3 support	<f11> SPC M-G <f3>	(pel-customize-library &optional OTHER-WINDOW)	Customize Emacs C3 support: c3-ts.
	<f12> <f3>		• If OTHER-WINDOW is non-nil (use C-u), display in another window. 👉 Several aspects of c3-ts-mode are controlled by PEL as defined in the user-options accessed by <f12> <f2> and override the c3-ts ones.
Show PEL setup for C3	<f11> SPC M-G ?	(pel-c3-setup-info & optional APPEND)	Display C3 setup information inside a "pel-c3-info" buffer with buttons providing quick access to the customization buffer of each variable shown. The information shown includes the value and interpretation of: c3-ts-indent-offset, tab-width, activated minor modes To append information in the buffer instead of clearing the previous content type any prefix argument (such as C-u) before the command keystroke.
	<f12> ?		
Set visual rendering of hard tabs for the current buffer See 🌲 Indentation for more information and commands.	<f11> <tab> w	(pel-set-tab-width N)	Change the tab width of the current buffer, only affecting the display rendering of hard tabs inserted in the buffer text. Prompts for a new value in the [2, 8] range.
	<f12> M-t		• This modifies a buffer local value of the the tab-width user-option. • The change is temporary and affects the current buffer only. • To change the tab width used for all C3 source code files, change the 'pel-c3-tab-width' user-option variable instead.
Comments	See also: 🌲 Comments		
Insert, realign, comment/uncomment region With PEL: Comment the current line with M-0 M-;	M-;	(comment-dwim ARG)	Insert or realign comment on current line (or region if a region is active). If line/region is already commented, uncomment it. • On a single line, the comment is placed <i>after</i> the code. • C-u M-; executes comment-kill
		(pel-comment-dwim ARG)	Same as comment-dwim but comments the current line with a numeric ARG or 0.
Select C3 comment style	<f12> <f4> M-;	(pel-select-c3-comment-style)	Select from the following C3 comment styles generated by comment-dwim and pel-comment-dwim commands: • // • /* */ • <* *>
Navigation	• Shift selection is supported by some commands, not all. The following symbols are used to identify whether the command supports shifts selection: • ⬆ This command supports shift selection in GUI and terminal mode. • ⬇ This command supports shift selection only in GUI mode. • ⬇ This command supports shift selection in GUI mode and also in terminal mode under some conditions (described in the description cell for the command). • ⬆ This command does not support shift selection. Sometimes for this you can first set the mark before moving. • Pressing the Shift key when using the key binding for commands that do not show any of these 3 arrows have no impact on the shift selection (and may be inappropriate for the command).		
• by defun : C3 definitions 🌲	The commands move point by C3 definitions: functions, macros, structs, bitstructs, enums, unions, constants, alias, typedef . • The <f6> cursor key mappings use <up> and <down> to move to the beginning of the defun, and <left> and <right> to the end of the defun. • In this context the word <i>defun</i> corresponds to any of the C3 definitions listed above. • 🌲 These commands are all enhanced by the use of 🌲 Tree Sitter .		
Backward to beginning of C3 definition 🌲 ⬇	• <f6> <up>	(beginning-of-defun &optional ARG)	Move backward to the beginning of a C3 definition. • With ARG, do it that many times. Negative ARG means move forward to the ARGth following beginning of defun. ⚠️ This command moves to the beginning go the next definition of the same nesting level of the current location. It skips the nested definitions.
	• C-M-a • C-M-<home> • C-[C-a • Esc C-a		
Forward to end of C3 definition 🌲 ⬇	• <f6> <right>	(end-of-defun &optional ARG)	Move forward to next end of C3 definition. • With argument, do it that many times. Negative argument -N means move back to Nth preceding end of defun. ⚠️ This command moves to the end of the next top-level function or class. It skips the nested definitions.
	• C-M-e • C-M-<end> • C-[C-e • Esc C-e		
Forward to start of next C3 definition 🌲 ⬇	<f6> <down>	(pel-beginning-of-next-defun &optional SILENT DONT-PUSH_MARK)	Move forward to the beginning of the next C3 definition. • Beeps if does not find beginning of next function unless SILENT is non-nil. • If the beginning of next function is found, push the start location to the mark ring unless DONT-PUSH_MARK is non-nil. • Move back to previous position with M-` or <f6><f6>
Backward to end of previous C3 definition 🌲 ⬇	<f6> <left>	(pel-end-of-previous-defun &optional SILENT DONT-PUSH_MARK)	Move backwards to the end of the previous C3 definition. • Beeps if does not find end of previous function unless SILENT is non-nil. • If the end of previous function is found, push the start location to the mark ring unless DONT-PUSH_MARK is non-nil. • Move back to previous position with M-` or <f6><f6>
• by blocks	Blocks can be: pairs of brackets: {},[],{<,>,"",'. Blocks using parentheses correspond to Lisp S-Expressions (sexp). 👉 The commands move across C3 blocks but also to the next/previous syntax element.		
block backward 🌲 ⬇ ⬇ ⬇	• C-M-<left>	(backward-sexp &optional ARG)	Move backward across one balanced expression (sexp). • With ARG, do it that many times. Negative arg -N means move forward across N balanced expressions. This command assumes point is not in a string or comment. • ⚠️ With PEL: if you want to use Esc C-<left> binding you must ensure that pel-windmove-on-esc-cursor user option is set to nil. ❖ C-M-<left> does not work on Windows, but H-<left> works.
	• Esc C-<left> ⚠️		
	• C-M-b		
	• C-[C-b • Esc C-b		

Description	Keystroke	Function	Note
			 Several Linux distros map C-M-<left> to desktop workspace operation. In that case you can either use another key binding or change Linux key binding in Systems->settings->keyboard->shortcuts to prevent it from using that key sequence.
block forward   	• C-M-<right>	(forward-sexp &optional ARG)	Move forward across one balanced expression (sexp). • With ARG, do it that many times. Negative arg -N means move backward across N balanced expressions. This command assumes point is not in a string or comment. •  With PEL: if you want to use Esc C-<right> binding you must ensure that pel-windmove-on-esc-cursor user option is set to nil. ❖ C-M-<right> does not work on Windows, but H-<right> does.
	• Esc C-<right> 		
	• C-M-f • C-[C-f • Esc C-f		
			 Several Linux distros map C-M-<right> to desktop workspace operation. In that case you can either use another key binding or change Linux key binding in Systems->settings->keyboard->shortcuts to prevent it from using that key sequence.
Up/inside sexp hierarchy   	• C-M-<up>	(backward-up-list &optional ARG ESCAPE-STRINGS NO-SYNTAX-CROSSING)	Move backward out of one level of parentheses. • This command will also work on other parentheses-like expressions defined by the current language mode. With ARG, do this that many times. • A negative argument means move forward but still to a less deep spot. •  With PEL: if you want to use Esc C-<up> binding you must ensure that pel-windmove-on-esc-cursor user option is set to nil. ❖ C-M-<up> does not work on Windows, but H-<up> does.
	• Esc C-<up>		
	• C-M-u • C-[C-u • Esc C-u		
Down/inside sexp/block  	• C-M-<down>	(down-list &optional ARG)	Move forward down one level of parentheses. • This command will also work on other parentheses-like expressions defined by the current language mode. • With ARG, do this that many times. A negative argument means move backward but still go down a level. • This command assumes point is not in a string or comment. •  With PEL: To use Esc C-<down> binding you must ensure that pel-windmove-on-esc-cursor user option is set to nil. ❖ C-M-<down> does not work on Windows, but H-<down> does.
	• Esc C-<down>		
 	• C-M-d • C-[C-d • Esc C-d		
🔗 Marking			
mark function See also: 🔗 Marking	C-M-h	(mark-defun &optional ALLOW-EXTEND)	Put mark at end of current definition, point at beginning. • With positive ARG, mark this and that many next definitions; with negative ARG, change the direction of marking. • If the mark is active, it marks the next or previous definition(s) after the one(s) already marked.
Compilation			
Compile C3 file See 🔗 Compilation Mode	<f12> c	(pel-c3-compile)	Compile C3 file, show rrors in compilation-mode buffer.

Emacs & C3— References

Document	Notes		
The C3 Programming Language	• C3 home • c3c: C3 Compiler @ Github	Github repos: • Awesome C3 Projects @ Github • c3 vendor libraries @ Github	
Learning C3	• What is C3?		
C3 blogs	• C evolved: The C3 programming Language, by Cristopher Lernö		
C3 LSP servers	• c3-lsp: LSP-server for the C3 language. This must be installed manually. See the installation instructions.		
Emacs support	• c3-ts-mode @ Github : tree-sitter-based major-mode for C3. • tree-sitter-c3 @ Github : tree-sitter language grammar for C3.		