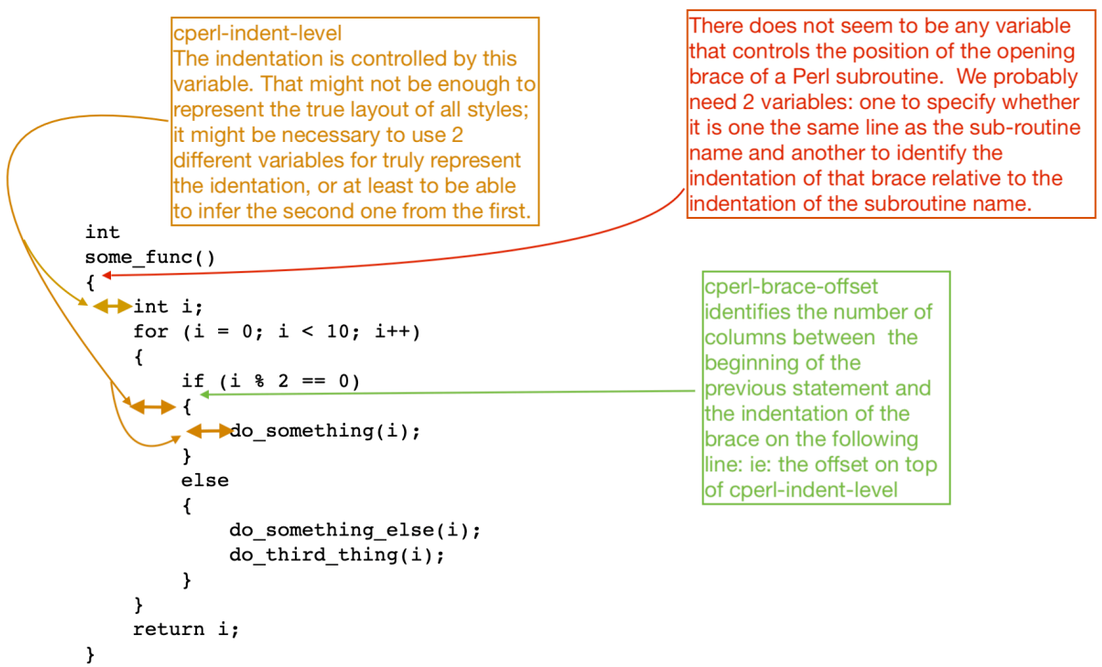
↖ Topic Index

🚧 🚦 Indentation Styles for C-like Programming Languages🚧

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	

	The purpose of this table is to describe all aspects of the various indentation styles used by C-like programming languages (C, C++, D, Java, Perl, …) and identify the properties that are required to develop indentation style formatters that can generate these formats properly. The table lists the various indentation styles and provides code snippet examples that can then be used to identify all required properties.
	🚧 I am first looking at the **cperl-mode** indentation aspects and variables. The values shown in the table reflects what the current code does (except for a minor modification for BSD).
	• perltidy uses more options to control indentation than Emacs perl-mode code. I will probably have to test the indentation style generated by perltidy, document the options and compare with the Emacs Lisp code.
	• I will also have to identify exactly what controls each variable and identify what aspects might be missing.
	• Some of the indentation styles listed below are not explicitly supported by the cperl-mode code. I will add the values as I learn what they mean.
	• For the list of values the following colour code is used:
	  • **orange**: this value does not seem to control every aspect of the layout
	  • **red**: a variable that is currently not used in the implementation
	• For all examples (except K&R Linux kernel style where 8-columns hard tabs are required), the indentation steps is taken as 4 columns.
	  • Some styles use 2 different steps of 2 columns each, and that would mean that 2 variables are required for expressing the indentation (one for each step). This may be something that is missing to represent one aspects of all styles.						

Analysis of the cperl-mode variables used to represent the various styles.							

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	

Allman	`while (x == y)`
	`{`
	`    foo();`
	`    bar();`
	`}`
		`int`
		`some_func()`
		`{`
		`    int i;`
		`    for (i = 0; i < 10; i++)`
		`    {`
		`        if (i % 2 == 0)`
		`        {`
		`            do_something(i);`
		`        }`
		`        else`
		`        {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`        }`
		`    }`
		`    return i;`
		`}`
			`int`
			`some_func()`
			`{`
			`    int c;`
			`#ifdef HAS_GETCH`
			`    while ((c = getch()) != EOF)`
			`#else`
			`    while ((c = getchar()) != EOF)`
			`#endif`
			`    {`
			`        do_something(c);`
			`    }`
			`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else
							0
							0
							2
							t
							t
							4
							-2
							t

GNU
• **GNU-style code formatting**
	`while (x == y)`
	`  {`
	`    foo();`
	`    bar();`
	`  }`
		`int`
		`some_func()`
		`{`
		`  int i;`
		`  for (i = 0; i < 10; i++)`
		`    {`
		`      if (i % 2 == 0)`
		`        {`
		`          do_something(i);`
		`        }`
		`      else`
		`        {`
		`          do_something_else(i);`
		`          do_third_thing(i);`
		`        }`
		`    }`
		`  return i;`
		`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else
							0
							0
							2
							t
							t
							2
							-2
							nil

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	

Whitesmith	`while (x == y)`
	`    {`
	`    foo();`
	`    bar();`
	`    }`
		`int`
		`some_func()`
		`    {`
		`    int i;`
		`    for (i = 0; i < 10; i++)`
		`        {`
		`        if (i % 2 == 0)`
		`            {`
		`            do_something(i);`
		`            }`
		`        else`
		`            {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`            }`
		`        }`
		`    return i;`
		`    }`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else
							0
							0
							4
							t
							t
							4
							-4
							nil

PBP (Perl Best Practice)🚧
• Similar to K&R 1TB.
• See **PBP Chucking section** for an example of the indentation style of a subroutine.
	`while (x == y) {`
	`    foo();`
	`    bar();`
	`}`
		`int`
		`some_func() {`
		`    int i;`
		`    for (i = 0; i < 10; i++) {`
		`        if (i % 2 == 0) {`
		`            do_something(i);`
		`        }`
		`        else {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`        }`
		`    }`
		`    return i;`
		`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else
							0
							0
							4
							nil
							nil
							4
							-2
							nil

K&R	`while (x == y) {`
	`    foo();`
	`    bar();`
	`}`
		`int`
		`some_func()`
		`{`
		`    int i;`
		`    for (i = 0; i < 10; i++) {`
		`        if (i % 2 == 0) {`
		`            do_something(i);`
		`        }`
		`        else {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`        }`
		`    }`
		`    return i;`
		`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else
							0
							-5
							5
							nil
							nil
							5
							5
							nil

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	

K&R 1TB
One True Brace
	`while (x == y) {`
	`    foo();`
	`    bar();`
	`}`
		`int`
		`some_func() {`
		`    int i;`
		`    for (i = 0; i < 10; i++) {`
		`        if (i % 2 == 0) {`
		`            do_something(i);`
		`        }`
		`        else {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`        }`
		`    }`
		`    return i;`
		`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

K&R Linux Kernel
• use hard tab characters
• tab stop every 8 spaces
• else is cuddled
		`int`
		`some_func() {`
		`        int i;`
		`        for (i = 0; i < 10; i++) {`
		`                if (i % 2 == 0) {`
		`                    do_something(i);`
		`                } else {`
		`                    do_something_else(i);`
		`                    do_third_thing(i);`
		`                }`
		`        }`
		`        return i;`
		`}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

Ratliff
• Like K&R 1TB but the closing brace lines up with the indentation of the nested block.
	`while (x == y) {`
	`    foo();`
	`    bar();`
	`    }`
		`int`
		`some_func() {`
		`    int i;`
		`    for (i = 0; i < 10; i++) {`
		`        if (i % 2 == 0) {`
		`            do_something(i);`
		`            }`
		`        else {`
		`            do_something_else(i);`
		`            do_third_thing(i);`
		`            }`
		`        }`
		`    return i;`
		`    }`
			`for (i = 0; i < 10; i++) {`
			`    if (i % 2 == 0) {`
			`        do_something(i);`
			`        }`
			`    else {`
			`        do_something_else(i);`
			`        }`
			`    }`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	

Horstmann
• Adapts Allman by placing the first statement of the block one the same line as the opening brace, reducing the. number of lines.
	`while (x == y)`
	`{  foo();`
	`  bar();`
	`}`
		`int`
		`some_func()`
		`{  int i;`
		`  for (i = 0; i < 10; i++)`
		`  {  if (i % 2 == 0)`
		`  {  do_something(i);`
		`  }`
		`  else`
		`  {  do_something_else(i);`
		`  do_third_thing(i);`
		`  }`
		`  }`
		`  return i;`
		`}`
			`while (x == y)`
			`{  something();`
			`  something_else();`
			`  //...`
			`  if (x < 0)`
			`  {  printf("Negative");`
			`  negative(x);`
			`  }`
			`  else`
			`  {  printf("Non-negative");`
			`  nonnegative(x);`
			`  }`
			`}`
			`final_thing();`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

Pico
• This is a style for the Pico language which lacks return statement.
• For C like languages it is similar to Horstmann, but the closing brace is at the end of the last indented statement, making it similar to the Lisp style below.
	`while (x == y)`
	`{  foo();`
	`  bar(); }`
		`int`
		`some_func()`
		`{  int i;`
		`  for (i = 0; i < 10; i++)`
		`  {  if (i % 2 == 0)`
		`  {  do_something(i); }`
		`  else`
		`  {  do_something_else(i);`
		`  do_third_thing(i); }}`
		`  return i; }`
			`stuff(n):`
			`{ x: 3 * n;`
			`  y: do_stuff(x);`
			`  y + x }`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

Lisp	`while (x == y)`
	`  { foo();`
	`  bar(); }`
		`int`
		`some_func()`
		`  { int i;`
		`  for (i = 0; i < 10; i++)`
		`  { if (i % 2 == 0)`
		`  { do_something(i); }`
		`  else`
		`  { do_something_else(i);`
		`  do_third_thing(i); }}`
		`  return i; }`
			`for (i = 0; i < 10; i++)`
			`  {if (i % 2 == 0)`
			`  {do_something(i);}`
			`  else`
			`  {do_something_else(i);`
			`  do_third_thing(i);}}`
						• cperl-brace-offset
						• cperl-continued-brace-offset
						• cperl-continued-statement-offset
						• cperl-extra-newline-before-brace
						• cperl-extra-newline-before-brace-multiline
						• cperl-indent-level
						• cperl-label-offset
						• cperl-merge-trailing-else	

Cperl 🚧						• cperl-brace-offset • cperl-continued-brace-offset • cperl-continued-statement-offset • cperl-extra-newline-before-brace • cperl-extra-newline-before-brace-multiline • cperl-indent-level • cperl-label-offset • cperl-merge-trailing-else	0 0 2 nil nil 2 -2 t
C++ 🚧 (cperl C++ style)						• cperl-brace-offset • cperl-continued-brace-offset • cperl-continued-statement-offset • cperl-extra-newline-before-brace • cperl-extra-newline-before-brace-multiline • cperl-indent-level • cperl-label-offset • cperl-merge-trailing-else	0 -4 4 t t 4 -4 nil

Indentation Style	while loop	for loop with nested if/else	Other example	cc-mode implementation properties		cperl-mode implementation properties	
PerlStyle 🚧						• cperl-brace-offset • cperl-continued-brace-offset • cperl-continued-statement-offset • cperl-extra-newline-before-brace • cperl-extra-newline-before-brace-multiline • cperl-indent-level • cperl-label-offset • cperl-merge-trailing-else	0 0 4 nil nil 4 -4 t