Windows — Managing Emacs Windows

.		vindows — Mana · · · ·			
<u>Operation</u>	Keystroke Emacs basic window mana	Function gement commands are bound to C	-v o C-v O C-v 1 C-v	Note 2 and C-y 3 with some deri	vatives and support for multiple
Window Operations See also:	frames. These basic facilities • windmove, built-in, activation	can be extended by several built-in a ted by PEL, with different key binding a provides the ability to restore previous	and external packages: gs to preserve ability to shift-	mark when moving across text	with cursor.
∑ Customize ∑ Key-Chords ∑ Frames ∑ Speedbar ∑ Scrolling	• • golden-ratio, activated by PEL when pel-use-golden-ratio is t or use-from-start. • Iayout-restore, activated by PEL when pel-use-restore-layout user-option is t. This associates layouts to buffers. It was conflicts with some modes. • ace-window activated by PEL when pel-use-ace-window user option is t, extends the C-x o command by displaying Ace target in the windows' upper left corner for quick navigation and access to buttons.				
∑ Sessions ∑ Tab Bar ★ display-buffer Emacs Lisp	 winum, activated by PEL when pel-use-winum is t or use-from-start, activates a the M-<f11> keys to move to numbers windows.</f11> wiever-chord, activated by PEL when pel-use-key-chord user option is t activates dual-key chords to move across windows. See <u>x Key-Chords</u> wiever-chord, activated by PEL when pel-use-key-chord user option is t activates dual-key chords to move across windows. See <u>x Key-Chords</u> wiever-chord, activated by PEL when pel-use-key-chord user option is t activates dual-key chords to move across windows. See <u>x Key-Chords</u> wiever-chord, activated by PEL when pel-use-key-chord user option is t activates dual-key chords to move across windows. 				
Intra-page links re available in the PEL Window Hydra ell below.	• window-purpose can • Several windows with the s • € On macOS, in graphics • ♦ On Windows, the Menu • In graphics mode, mous	to specific buffers, for example by Specific buffers, for example by Specific use to dedicate window to specific same buffers can operate as a single mode only, the % key is mapped to the hyper key. Be the operations are available. In termination of the population of the hyper key is mapped to windows in other frame to describe the specific buffers and the specific buffers in the specifi	ic purposes 2 activated by flow with follow mode, the super prefix key (s-). low the 4 icon is used to repail mode with PEL activate xterior in the super prefix activated by	resent the Menu key under Wir erm-mouse-mode with <f11></f11> -	ndows. < f12> .
Open this PDF file. See also: <u>∑ Help/Info</u>	<f11> w <f1></f1></f11>	(pel-help-pdf &optional OPEN-WEB-PAGE)			e C-u or M) is used, then it oper -help-pdf-arg user-option is set it's
Customize PEL vindow control	<f11> w <f2></f2></f11>	(pel-customize-pel &optional OTHER-WINDOW)	Customize PEL Window sur If OTHER-WINDOW is no	pport. n-nil (use C-u) , display in oth	er window.
<u>Customize</u> Emacs window control	<f11> w <f3></f3></f11>	(pel-customize-library &optional OTHER-WINDOW)	golden-ratio, winner, windm ! windresize does not use		-window, ace-window-display, ustomization inside the Emacs ook for Windresize user options ther
Show window info Demystifying Emacs Window Manager	• <f11> w ? • <f11> ? d w</f11></f11>	(pel-show-window-info (&optional ARG)		ndow, information show depend vindow attributes in minibuffer:	ds on command argument: #, buffer, size, dedicated, etc
Control where buffers are displayed Using Frame parameters Frame parameters Window Frame Parameters	* <f7> I</f7>	With M-0 or C-u prefix: print dis With M-1 or C-u C-u : same a She *pel-window-info* buffer has If height is too small you can on	is M-0 but appends to the bus button that open help on the	uffer. Use to collect info on seve variable providing access to contact the contact of the conta	reral windows.
Toggle window tab line	<f11> w L * <f7> L</f7></f11>	(global-tab-line-mode &optional ARG)	Toggle Tab-Line mode in all the name of each buffer. A		lisplays the window tab line showing
ace-window # on Mode Line	With ace-window-display-mode user-option on, the window number is shown on the left of the mode-line. Activating it will increase your Emacs init time Type <f11> <f2> o ace-window-display-mode to open the customize buffer to change it. Use <f11> w # , to activate it manually.</f11></f2></f11>				
Toggle showing ace-window # on window mode line	• <f11> w # • <f11> M-d #</f11></f11>	(ace-window-display-mode &optional ARG)	each window inside the left		displays the ace window number of use pel-use-ace-window.
PEL Window Hydra Quickly: Navigate through windows Swap windows Open buffer in different window Close window [Kill buffer] Tear window in Erames Tab Bar Split window Create side window	 While active the Hydra Hint is shown in the minibuffer (as shown below). Type the ? key to toggle the hint info off or back on. To have the Hydra hint off when the Hydra activates set the hydra-is-helpful user option to nil (but then you can still toggle it on/off with ?. 			the <f7> key again. Ing to type the <f7> prefix again. Ing. Ing</f7></f7>	
root window Resize window: Golden ratio to buffer's content with std Emacs with windresize	SplitF SplitW	Layout Frame	e <down>:</down>	0: this	K: kill buf/win k: kill buffer b: next buffer B: prev buffer C: recenter L: tab line M-?: hint cfg ?: hint q: quit
• Frame Layout: • Flip vertical/ horizontal • Transpose	Split frame Split Win Switch to the pel-∑buffer H	Change Layout By	ve Point Resize window win # ee Buffers		e buffer dedicated , follow-mod
windows • Window layout history		o display window help and to change ands a require the <u>window-purpose</u>			
Save/restore Dedicate windows Didicate windows	 Activate that <u>hydra</u> with <: All keys in the first 2 column 	f7> M-i M-i. Ins perform an action and display	Dedicate	Window info 	Other
Didicate window purpose Follow mode Recenter text in window	window information in the The keys in the "Dedicate" window, buffer purpose an The M-p key toggle the pu	minibuffer.	<pre>M-d: window M-b: buffer purpose M-w: window purpose</pre>	M-i: current <up>: 1 <down>:</down></up>	<pre>M-p: toggle purpose mod ?: hint <f7>: cancel</f7></pre>
<u>winum</u>	winum, activated by PEL	when pel-use-winum is t or use	e-from-start, activates a the	W- <f11> keys to move to numb</f11>	pers windows.
Toggle vinum-mode	M- <f11> M-w</f11>	(winum-mode &optional ARG)			a window number in the window mber 0 to 9 to move to that window
Move to widow by number	• C-x w ` • M- <f11> M-`</f11>	(winum-select-window-by- number &optional ARG)		ich number is specified by com, delete the window instead of s	•
	• C-x w 0 • M- <f11> M-0</f11>	(winum-select-window-0-or-10 &optional ARG)	Jump to window 0 if assign If prefix ARG is given (like	ed or 10 if exists. e C-u or M), delete the windo	ow instead of selecting it.
	• C-x w 1 • M- <f11> M-1 • • M-<f11> M-9 • C-x w 9</f11></f11>	(winum-select-window-1 &optional ARG) (winum-select-window-9 &optional ARG)	If prefix ARG is given (like When active the winum binding used by Emacs for	-	ow instead of selecting it. C-x w 0 and C-x w 2 key ow-on and split-root-window-below

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Move point to identified window			ursor key bindings described below. In some circumstances, these key bindings can conflict an be translated to Meta-cursor keys that are bound to Org-mode operations.
Esc-cursor keys	PEL provides the following user options to control the key bindings: • pel-windmove-on-esc-cursor controls the <esc> bindings, it is on by default on macOS and Windows, but off on Linux.</esc>		
for windmove	This affects the behavio Plants affects the behavio Several Linux distribution of the commands.	ur of the <esc> cursor key bindings tros map C-M- bindings such as C-</esc>	in org buffer as well to ensure a regular navigation across all buffers. M- <right> and C-M-<left> If this is not the case for your Linux system, you can activate the Esc C- bindings in replacement for the C-M- bindings you need to access several Emacs</left></right>
Move to window above	<pre> <f11> <up> <f1> <up> <f1> <up> <esc> <up> %-<up> *-<up> *-<up> * <f7> <up> </up></f7></up></up></up></up></esc></up></f1></up></f1></up></f11></pre>	(windmove-up &optional ARG)	Select the window above the current one. • With no prefix argument, or with prefix argument equal to zero, "up" is relative to the position of point in the window; otherwise it is relative to the left edge (for positive ARG) or the right edge (for negative ARG) of the current window. • If no window is at the desired location, an error is signalled. With PEL, the yu key-chord is also available when key-chord is available and active. See Key-Chords.
Move to window below	• <f11> <down> • <f1> <down> • <f1> <down> • <esc> <down> • *-<down> • *-<down> • *-<down> • *-<down> • bn</down></down></down></down></down></esc></down></f1></down></f1></down></f11>	(windmove-down &optional ARG)	Select the window below the current one. • With no prefix argument, or with prefix argument equal to zero, "down" is relative to the position of point in the window; otherwise it is relative to the left edge (for positive ARG) or the right edge (for negative ARG) of the current window. • If no window is at the desired location, an error is signalled. With PEL, the bn key-chord is also available when key-chord is available and active. See Key-Chords.
Move to window at left	<pre> • <f11> <left> • <f1> <down> • <esc> <left> • %-<left> • \$-<left> * <f7> <left> • gf</left></f7></left></left></left></esc></down></f1></left></f11></pre>	(windmove-left &optional ARG)	Select the window to the left of the current one. • With no prefix argument, or with prefix argument equal to zero, "left" is relative to the position of point in the window; otherwise it is relative to the top edge (for positive ARG) or the bottom edge (for negative ARG) of the current window. • If no window is at the desired location, an error is signalled. With PEL, the gf key-chord is also available when key-chord is available and active. See Key-Chords.
Move to window at right	<pre> <f11> <right> <f1> <right> <f1> <right> <esc> <right> *-<right> *-<right> * <f7> <right> ik</right></f7></right></right></right></esc></right></f1></right></f1></right></f11></pre>	(windmove-right &optional ARG)	Select the window to the right of the current one. • With no prefix argument, or with prefix argument equal to zero, "right" is relative to the position of point in the window; otherwise it is relative to the top edge (for positive ARG) or the bottom edge (for negative ARG) of the current window. • If no window is at the desired location, an error is signalled. With PEL, the jk key-chord is also available when key-chord is available and active. See Key-Chords.
Move point to other window - C-u: swap - C-u C-u: delete	• C-x o * <f7> o</f7>	(other-window COUNT &optional ALL-FRAMES)	Select (move point) to other window. Select another window in cyclic ordering of windows. With prefix argument consider all frames. This is Emacs default behaviour for this key. And PEL's default: pel-use-ace-window =
Move to other window Move to specified window Ace target	• C-x o	(ace-window ARG)	mil. Change it to activate the functionality described in next row. Move to (and possibly operate on) window selected by an Ace target code. Requires the <u>ace-window</u> external package. PEL downloads, installs and activates it when the <i>pel-use-ace-window</i> user option is set to t.
Operate on specified window	 With only 2 windows in the current frame, move to the other window. With 3 windows or more: display an <u>Ace target in the windows' upper left corner</u> that identifies the window target: Type the displayed window number to move to that window. With C-x o you can also type one of the extra character before the window number: 		
See also: ∑ Customize	• x - delete windo		 m - swap windows c - copy window
Demo: <u>C'est la Z, video 5</u>	 j - select buffer u - select buffer v - split window F - split window 	r r in the other window	 n - aw-flip-window: switch to the window previously used e - execute command other window b - split window horizontally o - maximize current window (delete others)
Jype <f11> w # to add window number in window modelines</f11>	This supports selecting windows in other frames (both in graphics and terminal mode) • In graphics mode the other Emacs frames are in other OS window. • In text terminal mode, other Emacs frames are hidden (as they occupy the exact same OS window): just one Emacs frame is displayed. d An argument can be used to perform more operations: • To force a window number prompt, use any negative prefix (including just typing C− − alone). Useful with several frames when current frame has 1 or 2 windows active. • Prefixed with one C−u, does a swap between the selected window and the current window, so that the selected buffer moves to current window (and current buffer moves to selected window). The PEL <f11> w x key does the same (but does not prompt when there are only 2 windows.) • Prefixed with two C-u's, deletes the window identified by the window number.</f11>		
Move point to next window can specify all frames	<f11> w o</f11>	(pel-other-window &optional ALL-FRAMES)	Move to other window, like the original other-window. • With any prefix argument consider all frames. Without argument move only within current frame. • Useful when 'other-window' has been remapped to something like 'ace-window' and want to see where the <i>next</i> window is.
Move point to previous window can specify all frames	<f11> w 0</f11>	(pel-other-window-backward &optional N)	Select Nth previous window. n defaults to 1: meaning direct previous window. with negative n: move as (abs n) but consider all frames. If n is positive consider only current frame. This is the inverse of what does the standard (other-window). This command might be useful when ace-window is not used.
Swap (eXchange) windows	• <f11> w x * <f7> x</f7></f11>	(ace-swap-windows)	Swap buffers of the current window with another. If 3 windows or more, a single digit shows up in the top-left corner identifying the number to type to swap to this window. Requires the <u>ace-window</u> external package. PEL downloads, install and activates it when the <u>pel-use-ace-window</u> user options is set to t.
Open Buffer in another window		buffer name is using the input comp	de another window. One command select (move point to) that window. The other does not. eletion method currently active (default, Ido, Helm,)
Display buffer in other window, don't select the other window.	• C-x 4 C-o • <f11> w b</f11>	(ido-display-buffer) ———————————————————————————————————	Display a buffer in other window but don't select it.
Select buffer in other window	• C-x 4 b • <f11> w B</f11>	(ido-switch-buffer-other-window)	Select buffer bufname in another window (switch-to-buffer-other-window). See Select Buffer.

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>	
Close Windows	The following commands are	used to remove (close) windows. The	he last row correspond to a set of four PEL commands bound to cursor keys.	
Close this windows : number 0	• C-x 0 * <f7> 0</f7>	(delete-window &optional WINDOW)	This just closes the window and moves the cursor to the next window.	
Close other (next) window : letter O	• <f11> w w * <f7> 0</f7></f11>	(pel-close-other-window)	Close the other window. Hide its buffer, does not kill it. • Useful to close temporary window, like the help window, without having to move into it.	
Close all other windows	• C-x 1 * <f7> 1</f7>	(delete-other-windows &optional WINDOW)	Maximize current window: make current window fill its frame. Close all other windows.	
Close window identified by number	<f11> w k</f11>	(ace-delete-window)	Delete a window selected by a number, a number shown in the top-left corner of the window. • If there's only 2 windows, kills the other window. If only 1 window is used, does not kill it. • Needs <u>ace-window</u> external package. • PEL downloads, installs and activates it when the <u>pel-use-ace-window</u> user options is set to t.	
Maximize window identified by number	<f11> w m</f11>	(ace-maximize-window)	Maximize specified window. Close all windows except the window selected by number, a number shown in the top-left corner of the window. Needs <u>ace-window</u> external package. The old versions used ace-window-maximize, but newer versions use ace-delete-maximize-windows. PEL uses the one that is available. PEL downloads, install and activates it when the pel-use-ace-window user options is set to t.	
Close a window identified by cursor direction	• ESC C-S- <right> • ESC C-S-<left> • ESC C-S-<down> • ESC C-S-<up> • <f1> C-S-<right> • <f1> C-S-<left> • <f1> C-S-<left> • <f1> C-S-<down> • <f1> C-S-<down> • <f1> C-S-<down> • <f1> C-S-<up> • <f11> C-S-<wip+ <f11="" •=""> C-S-<wip+ <f11="" •=""> C-S-<wip+ <f11="" •=""> C-S-<wip+ <f11="" •=""> C-S-<down> • <f11> C-S-<down> • <f11> C-S-<wip+ <f11="" •=""> C-S-<wip+ <f11<="" th="" •=""><th>pel-close-window-right) (pel-close-window-left) (pel-close-window-down) (pel-close-window-up)</th><th> Kill window pointed by the cursor's direction. The 4 different commands and shown in the same cell for convenience, one for each of the available cursors: <right>, <left>, <down> and <up>.</up></down></left></right> There are 4 possible sets of bindings: 3 sets of stand-alone commands: Commands with <f11> prefix, always available.</f11> Commands with ESC prefix, available when pel-windmove-on-esc-cursor user option is on (set to t). Commands with <f1> prefix, available when pel-windmove-on-f1-cursor user option is on (set to t).</f1> The Hydra-based commands, with the Hydra activated with any of the key sequences that use the <f7> prefix. Available when pel-use-hydra user option is set to t.</f7> </th></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></wip+></f11></down></f11></down></wip+></wip+></wip+></wip+></f11></up></f1></down></f1></down></f1></down></f1></left></f1></left></f1></right></f1></up></down></left></right>	pel-close-window-right) (pel-close-window-left) (pel-close-window-down) (pel-close-window-up)	 Kill window pointed by the cursor's direction. The 4 different commands and shown in the same cell for convenience, one for each of the available cursors: <right>, <left>, <down> and <up>.</up></down></left></right> There are 4 possible sets of bindings: 3 sets of stand-alone commands: Commands with <f11> prefix, always available.</f11> Commands with ESC prefix, available when pel-windmove-on-esc-cursor user option is on (set to t). Commands with <f1> prefix, available when pel-windmove-on-f1-cursor user option is on (set to t).</f1> The Hydra-based commands, with the Hydra activated with any of the key sequences that use the <f7> prefix. Available when pel-use-hydra user option is set to t.</f7> 	
Close all windows showing buffer	• C-x w 0 • <f11> w 0</f11>	(delete-windows-on &optional BUFFER-OR-NAME FRAME)	Prompts for buffer name and delete all windows showing that buffer. • With M-0 prefix: delete only windows in the current terminal's frames. Any other prefix argument means that only windows in the current frame will be deleted.	
Kill current buffer and close window See also: Euffers	• C-x 4 0 * <f7> K</f7>	(kill-buffer-and-window)	Kill the current buffer and delete the selected window.	
Kill current buffer	* <f7> k</f7>	(pel-kill-current-buffer)	Kill current buffer and close window without prompting unless it is modified. In Hydra only.	
Tear window in	With the following 2 Emacs c	commands you can extract the currer	nt window into a new <u>Frames</u> or tab in the <u>Tab Bar</u> (available in Emacs >= 27.1).	
Tear window in <u>∑ Frames</u>	C-x w ^ f • <f11> w i f * <f7> F</f7></f11>	(tear-off-window CLICK)	Delete the selected window, and create a new frame displaying its buffer. • See: Frames	
Tear window in tab bar See: <u>∑ Tab Bar</u>	C-x w ^ t • <f11> w i t * <f7> T</f7></f11>	(tab-window-detach)	Move the selected window to a new tab. Emacs >= 27.1 • This command removes the selected window from the configuration stored on the current tab, and makes a new tab with that window in its configuration.	
Create Window by splitting current window	The split-window-keep-	point user option controls whether p minimize redisplay. Change tempora	irrent one. The last row correspond to a set of four PEL commands bound to cursor keys. oint is kept at the same vertical position in both windows (t, the default). If nil, Emacs adjust rily with: <f11> <f4> w s. Change permanently with: <f11> w <f3> 1 to access the</f3></f11></f4></f11>	
Toggle split window point behaviour	<f11> w <f4> s</f4></f11>	(pel-toggle-split-window-keep- point)	Toggle the value of split-window-keep-point between values described above. Print description of new value. Change only affects current Emacs session, not stored.	
Create new window below	• C-x 2 * <f7> 2</f7>	(split-window-below &optional SIZE)	 Split current window into 2 windows. Leave point in top window. Same buffer in both. Optional SIZE numerical argument identify line count of top window (if positive) or bottom window (if negative). 	
Create new window at right	• C-x 3 * <f7> 3</f7>	(split-window-right &optional SIZE)	Split current window into two side-by-side windows. Leave point in the left window. Same buffer in both. • Optional SIZE numerical argument identify column count of left-hand window (if positive) or right-hand window (if negative).	
Create window at cursor direction	• ESC C- <right> • ESC C-<left> • ESC C-<down> • ESC C-<up> • <f1> C-<right> • <f1> C-<left> • <f1> C-<left> • <f1> C-<down> • <f1> C-\down> • <f1> C-\down> • <f11> C-\down> • <f11 c-\down=""> • <f1< th=""><th>(pel-create-window-right & optional SIZE) (pel-create-window-left & optional SIZE) (pel-create-window-down & optional SIZE) (pel-create-window-up & optional SIZE)</th><th>Create a window at the location pointed by the cursor's direction, and move point inside the new window. • Optional SIZE numerical argument identify either: • line count of top window (if positive) or bottom window (if negative). • column count of left-hand window (if positive) or right-hand window (if negative). • The 4 different commands and shown in the same cell for convenience, one for each of the available cursors: <right>, <left>, <down> and <up>. • There are 4 possible sets of bindings: • 3 sets of stand-alone commands: • Commands with <f11> prefix, always available. • Commands with ESC prefix, ☑ available when pel-windmove-on-esc-cursor user option is on (set to t). • Commands with <f1> prefix, ☑ available when pel-windmove-on-f1-cursor user option is on (set to t). • The Hydra-based commands, with the Hydra activated with any of the key sequences that use the <f7> prefix. ☑ Available when pel-use-hydra user option is set to t.</f7></f1></f11></up></down></left></right></th></f1<></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f11></f1></f1></down></f1></left></f1></left></f1></right></f1></up></down></left></right>	(pel-create-window-right & optional SIZE) (pel-create-window-left & optional SIZE) (pel-create-window-down & optional SIZE) (pel-create-window-up & optional SIZE)	Create a window at the location pointed by the cursor's direction, and move point inside the new window. • Optional SIZE numerical argument identify either: • line count of top window (if positive) or bottom window (if negative). • column count of left-hand window (if positive) or right-hand window (if negative). • The 4 different commands and shown in the same cell for convenience, one for each of the available cursors: <right>, <left>, <down> and <up>. • There are 4 possible sets of bindings: • 3 sets of stand-alone commands: • Commands with <f11> prefix, always available. • Commands with ESC prefix, ☑ available when pel-windmove-on-esc-cursor user option is on (set to t). • Commands with <f1> prefix, ☑ available when pel-windmove-on-f1-cursor user option is on (set to t). • The Hydra-based commands, with the Hydra activated with any of the key sequences that use the <f7> prefix. ☑ Available when pel-use-hydra user option is set to t.</f7></f1></f11></up></down></left></right>	
Create Side Windows			ndows positioned at any of the four sides of a frame's <i>root</i> window. In the entire frame width under several vertically split windows.	
Create new side window that holds current buffer.	<pre> • <f11> w \ 8 • <f11> w \ 2 • <f11> w \ 6 • <f11> w \ 4 * <f7> \ 8 * <f7> \ 2 * <f7> \ 6 * <f7> \ 4 </f7></f7></f7></f7></f11></f11></f11></f11></pre>	(pel-buff-in-side-win-top &optional N) (pel-buff-in-side-win-bottom &optional N) (pel-buff-in-side-win-right &optional N) (pel-buff-in-side-win-left &optional N)	Place current buffer in a new, dedicated side window. • By default the side window is at the bottom of the current frame. • Use a numeric argument to specify a different side: For N= 2, 4, 6 or 8, select window pointed by what is pointed by cursor positioned at the layout of numeric keypad: 8 := 'top 4 := 'left 6 := 'right 2 := 'bottom	
Toggle display of side windows in the frame	• C-x w s • <f11> w \ \</f11>	(window-toggle-side-windows &optional FRAME)	Toggle display of side windows on current frame. • If FRAME has at least one side window, delete all side windows on FRAME after saving FRAME's state in the FRAME's 'window-state' frame parameter. Otherwise, restore any side windows recorded in FRAME's 'window-state' parameter, leaving FRAME's main window alone. Signal an error if FRAME has no side windows and no saved state for it is found.	

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Create Frame	I T		re width or height of the frame, regardless of how many windows already exist in the frame.
Root Windows	⚠ The native Emacs key bindings are available on Emacs 29.1 and later only. On earlier versions of Emacs PEL implements the commands. • <f11> w / 8</f11>		
Split root window above	• <f11> w / 8 * <f7> / 8</f7></f11>	&optional SIZE)	 The current window of current frame in two. The current window configuration is retained in the lower window, the top window takes up the whole width of the frame. Optional SIZE numerical argument sets line count of top window (if positive) or bottom window (if negative).
Split root window below	C-x w 2 • <f11> w / 2 * <f7> / 2</f7></f11>	(split-root-window-below &optional SIZE) (pel-split-root-window-bottom &optional SIZE)	Split root window of current frame in two. The current window configuration is retained in the top window, the lower window takes up the whole width of the frame. Optional SIZE numerical argument sets line count of top window (if positive) or bottom window (if negative).
Split root window right	C-x w 3 • <f11> w / 6</f11>	(split-root-window-right &optional SIZE)	Split root window of current frame into two side-by-side windows. • The current window configuration is retained within the left window, and a new window is
	* <f7> / 6</f7>	(pel-split-root-window-right &optional SIZE)	 created on the right, taking up the whole height of the frame. Optional SIZE numerical argument identify column count of left-hand window (if positive) or right-hand window (if negative).
Split root window left	• <f11> w / 4 * <f7> / 4</f7></f11>	(Pel-split-root-window-left &optional SIZE)	Split root window of current frame into two side-by-side windows. The current window configuration is retained within the right window, and a new window is created on the left, taking up the whole height of the frame. Optional SIZE numerical argument identify column count of left-hand window (if positive) or right-hand window (if negative).
Automatic Window Resize	The state of the s	ivated by PEL 🛃 when pel-use-golde active the current window is dynamic	en-ratio is t or use-from-start. cally enlarged at the expense of other windows in the current frame.
Toggle golden-ratio mode	• <f11> w g * <f7> g</f7></f11>	(golden-ratio-mode &optional ARG)	Toggle automatic window resizing with golden ratio, a global minor mode. • When active, the current window is enlarged at the expense of other windows, keeping a "golden ratio" of the space used by windows.
Fit window size to current buffer's content	• C-x w - • <f11> w s . * <f7> .</f7></f11>	(fit-window-to-buffer &optional WINDOW MAX-HEIGHT MIN-HEIGHT MAX-WIDTH MIN-WIDTH PRESERVE-SIZE)	Adjust size of WINDOW to display its buffer's contents exactly. WINDOW must be a live window and defaults to the selected one. If WINDOW is part of a vertical combination, adjust WINDOW's height. The new height is calculated from the actual height of the accessible portion of its buffer. The optional argument MAX-HEIGHT specifies a maximum height and defaults to the height of WINDOW's frame. The optional argument MIN-HEIGHT specifies a minimum height and defaults to 'window-min-height'. Both MAX-HEIGHT and MIN-HEIGHT are specified in lines and include mode and header line and a bottom divider, if any. If WINDOW is part of a horizontal combination and the value of the option 'fit-window-to-buffer-horizontally' is non-nil, adjust WINDOW's width. The new width of WINDOW is calculated from the maximum length of its buffer's lines that follow the current start position of WINDOW. The optional argument MAX-WIDTH specifies a maximum width and defaults to 'window-min-width'. Both MAX-WIDTH and MIN-WIDTH are specified in columns and include fringes, margins, a scrollbar and a vertical divider, if any.
Resize Window Using the base Emacs commands	The following commands are used to change the current window size. Except when used inside the hydra, none of these commands are easy to re-type quickly. • The best way to use them is to type them once and then use a repeat key: • Emacs native repeat key is C−x z once and then repeat more by only typing 'z'. PEL also binds the <f5> key to repeat. • PEL also provides the Window Hydra (described above) which can be started with one of the following commands using the <f7> prefix. Once the Hydra is entered, commands can be issued again without any prefix. Each of the first 5 commands below have 5 possible bindings: • The Emacs default key binding using the C−x prefix. • The commands with the default PEL <f11> prefix, always available. • The commands with ESC prefix, available when pel-windmove-on-esc-cursor user option is on (set to t). • The Hydra-based commands, activated with any of the key sequences that use the <f7> prefix. Available when pel-use-hydra user option is set to t.</f7></f11></f7></f5>		
Toggle fixed size window constraint	• <f11> w s s * <f7> s</f7></f11>	(pel-toggle-window-size-fixed &optional STRICT)	Toggle the fix size window constraint. With optional argument STRICT, this sets the 'window-size-fixed' variable which imposes a strict size constraint, preventing Emacs from changing the size of the window even if it would be necessary to, for example, display the mini buffer. By default, with no argument, the size restriction is not strict; it prevents most operations to change the window size but Emacs can still change the size if it must, for example, make place for the mini buffer.
Grow window taller	• C-x ^ • <f11> w s V • ESC M-<up> • <f1> M-<up> * <f7> V</f7></up></f1></up></f11>	(enlarge-window DELTA &optional HORIZONTAL)	Grow window taller by DELTA lines (defaults to 1), specify more with C-u n (or M- n) argument prefix. • See note above for availability of various bindings.
Shrink window smaller	• <f11> w s v • ESC M-<down> • <f1> M-<down> * <f7> v</f7></down></f1></down></f11>	(shrink-window DELTA &optional HORIZONTAL)	Shrink height of window by DELTA lines (defaults to 1), specify more with C-u n (or M- n) argument prefix. • See note above for availability of various bindings.
Grow windows wider	• C-x } • <f11> w s H • ESC M-<right> • <f1> M-<right> * <f7> H</f7></right></f1></right></f11>	(enlarge-window-horizontally DELTA)	Enlarge the current window horizontally. • See note above for availability of various bindings.
Shrink window narrower	• C-x { • <f11> w s h • ESC M-<left> • <f1> M-<left> * <f7> h</f7></left></f1></left></f11>	(shrink-window-horizontally DELTA)	Reduce the width of the current window. • See note above for availability of various bindings.
Make all windows the same size	• C-x + • <f11> w s = • ESC <kp-5> • <f1> <kp-5> * <f7> =</f7></kp-5></f1></kp-5></f11>	(balance-windows & optional WINDOW-OR-FRAME)	Balance the sizes of windows of WINDOW-OR-FRAME. WINDOW-OR-FRAME is optional and defaults to the selected frame. If WINDOW-OR-FRAME denotes a frame, balance the sizes of all windows of that frame. If WINDOW-OR-FRAME denotes a window, recursively balance the sizes of all child windows of that window. See note above for availability of various bindings.
Reduce current window size if buffer is smaller than window	• C-x - • <f11> w s - * <f7> -</f7></f11>	(shrink-window-if-larger-than- buffer &optional WINDOW)	Shrink height of current window if its buffer doesn't need so many lines. More precisely, shrink window vertically to be as small as possible, while still showing the full contents of its buffer. Do not shrink window to less than 'window-min-height' lines. Do nothing if the buffer contains more lines than the present window height, or if some of the window's contents are scrolled out of view, or if shrinking this window would also shrink another window, or if the window is the only window of its frame.

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>	
Resize Window		, ,	d (mapped to <f11> w r by PEL).</f11>	
with windresize			it when pel-use-windresize user-option is set to t . w Hydra is active, taking over Hydra keys. Complete and return to Hydra with RET	
Resize Window	<f11> w r</f11>	(windresize &optional	Resize windows interactively using the following minor mode keys.	
interactively		INCREMENT)	• Use RET to complete or C - g to abort. Both exit the mode.	
Resize window using cursors	<pre> <right> <left> <down> <up> </up></down></left></right></pre>	(windresize-right & optional N LEFT-BORDER FIXED-WIDTH) (windresize-left & optional N LEFT-BORDER FIXED-WIDTH) (windresize-down & optional N LEFT-BORDER FIXED-WIDTH) (windresize-up & optional N LEFT-BORDER FIXED-WIDTH)	Resize the current window in the direction of the used cursor. N is the number of lines by which moving borders.	
Resize windows using direction opposite to cursor	C-<right></right>C-<left></left>C-<down></down>C-<up></up>	(windresize-right-minus) (windresize-left-minus) (windresize-down-minus) (windresize-up-minus)	Same as the above commands but use the direction opposite to the cursor.	
Resize window bottom-right	/	(windresize-bottom-right)	Call 'windresize-right' and 'windresize-down' successively. In move-borders method, move the bottom-right edge of the window outwards. In resize-window method, enlarge the window horizontally and shrink it vertically.	
Resize window top- right	\	(windresize-up-right)	Call 'windresize-right' and 'windresize-up' successively. In move-borders method, move the upper-right edge of the window outwards. In resize-window method, enlarge the window both horizontally and horizontally.	
Resize window top- left	M-/	(windresize-up-left)	Call 'windresize-left' and 'windresize-up' successively. In move-borders method, move the upper-left edge of the window outwards. In resize-window method, shrink the window horizontally and enlarge it vertically.	
Resize window bottom-left	M-\	(windresize-bottom-left)	Call 'windresize-left' and 'windresize-up' successively. In move-borders method, move the bottom-left edge of the window outwards. In resize-window method, shrink the window both horizontally and vertically.	
Reposition window	C-M-<right></right>C-M-<left></left>C-M-<down></down>C-M-<up></up>	(windresize-right-fixed) (windresize-left-fixed) (windresize-down-fixed) (windresize-up-fixed)	Move the window to the direction identified by the cursor, keeping its width (or height) constant.	
Set window resize/ reposition increment step	i	(windresize-set-increment &optional N)	Set the window resize increment step value to N. • Use a numeric argument prefix to set N interactively: • For example: M-4 i sets the increment to 4.	
Increase the resize/ reposition increment step	+	(windresize-increase-increment &optional SILENT)	Increase the increment. • If SILENT is non-nil, don't output a message.	
Decrease the resize/reposition increment step	-	(windresize-decrease-increment & optional SILENT)	Decrease the increment. • If SILENT is non-nil, don't output a message.	
Negate resize/ reposition increment	~	(windresize-negate-increment &optional SILENT)	Negate the increment value. Changes the direction of window resize operations. • If SILENT is non-nil, don't output a message.	
Balance Windows	• = • C-x +	(windresize-balance-windows)	Balance window sizes.	
Delete current window	• 0 • C-x 0	(delete-window &optional WINDOW)	Delete current window During my testing C-x 0 behaved like windresize-other-window instead. Should investigate. 0 works fine though.	
Delete other windows	• 1 • C-x 1	(windresize-delete-other- windows)	Delete other windows.	
Split window vertically	• 2 • C-x 2	(windresize-split-window- vertically)	Split window vertically. Creates 2 windows: one on top of the other.	
Split window horizontally	• 3 • C-x 3	(windresize-split-window-horizontally)	Split window horizontally. Creates 2 windows side by side.	
Save window configuration	S	(windresize-save-window-configuration)	Save the current window configuration in the ring.	
Restore window configuration	r	(windresize-restore-window-configuration)	Restore the previous window configuration in the ring.	
Move point to other adjacent window	 M-S-<right></right> M-S-<left></left> M-S-<down></down> M-S-<up></up> 	(windresize-select-right &optional ARG) (windresize-select-left &optional ARG) (windresize-select-down &optional ARG) (windresize-select-up &optional ARG)	Select the window identified by the cursor. If ARG is nil or zero, select the window relatively to the point position. If ARG is positive, select relatively to the top edge and select relatively to the bottom edge otherwise.	
Move point to other window	0	(windresize-other-window)	Select other window.	
Move point to previous window	р	(windresize-previous-window)	Select the previous window.	
Move point to next window	n	(windresize-next-window)	Select other window.	
Set window layout and exit windresize	• x • RET	(windresize-exit)	Keep this window configuration and exit 'windresize'.	
Cancel window layout and exit windresize	• c • q	(windresize-cancel-and-quit)	Cancel window resizing and quit 'windresize'. • Restore window layout used before the entry into windresize mode. • The layouts, are, however still available via winner-undo <f11> w p, with PEL.</f11>	

Operation	<u>Keystroke</u>	Function	<u>Note</u>
Quick Window Layout Change	The following commands flip	the layout of 2 windows: the current	and next window between 2 horizontal windows to 2 vertical windows and vice versa.
Flip 2 horizontal windows to 2 vertical ones	• <f11> w v * <f7> M-v</f7></f11>	(pel-2-vertical-windows)	Convert 2 horizontal windows into 2 vertical windows. Flip the orientation of the current window and its next one. The next window is placed at the right of the current window.
Flip 2 vertical windows to 2 horizontal ones	• <f11> w h * <f7> M-h</f7></f11>	(pel-2-horizontal-windows)	Convert 2 horizontal windows into 2 horizontal windows. • Flip the orientation of the current window and its next one. • The next window is placed below the current one.
Window layout transpose	The external transpose-1	rame package. PEL activates it when	n pel-use-transpose-frame user-option is set to t .
Rotate windows 90 degrees counter- clockwise	• <f11> w t a * <f7> M-r</f7></f11>	(rotate-frame-anticlockwise &optional FRAME)	Rotate windows arrangement 90 degrees counter-clockwise.
Rotate windows 90 degrees clockwise	<f11> w t c</f11>	(rotate-frame-clockwise &optional FRAME)	Rotate windows arrangement 90 degrees clockwise.
Flip windows vertically:	• <f11> w t i * <f7> M-i</f7></f11>	(flip-frame &optional FRAME)	Flip windows arrangement vertically.
Flip window horizontally:	• <f11> w t o</f11>	(flop-frame &optional FRAME)	Flip windows arrangement horizontally.
Rotate windows 180 degrees	<f11> w t r</f11>	(rotate-frame &optional FRAME)	Rotate windows arrangement 180 degrees.
Transpose windows	• <f11> w t t * <f7> M-t</f7></f11>	(transpose-frame &optional FRAME)	Transpose windows arrangement.
Window Layout	_		vindow layout. Two packages are available . cs. ☑ PEL activates them when pel-use-winner user option is t .
History Restore an earlier	C-c <left></left>	(winner-undo)	Switch back to an earlier window configuration saved by Winner mode.
window configuration	• <f11> w p * <f7> p</f7></f11>	(willier-undo)	In other words, "undo" changes in window configuration.
Restore a more recent window configuration	• C-c <right> • <f11> w n * <f7> n</f7></f11></right>	(winner-redo)	Restore a more recent window configuration saved by Winner mode.
Save/Restore window layout	The external <u>layout-restore</u> package. PEL activates it with pel-use-restore-layout user-option set to t. This associates layouts to buffers. This needs investigation work - use caution.		
Save Window layout	<f11> w l s</f11>	(layout-save-current)	Save the current layout, add a list of current layout to layout-configuration-alist.
Restore Layout	<f11> w 1 r</f11>	(layout-restore &optional BUFFER)	Restore the layout related to the buffer BUFFER, if there is such a layout saved in 'layout-configuration-alist', and update the layout if necessary.
Delete Layout	<f11> w l d</f11>	(layout-delete-current &optional BUFFER)	Delete the layout information from 'layout-configuration-alist' if there is an element list related to BUFFER.
Dedicated Windows			ay that future windows operations do not affect the dedicated windows. It with the following command. Use <f11> w ? to show the current window state.</f11>
Toggle dedicated status of current window	• <f11> w d * <f7> M-i d</f7></f11>	(pel-toggle-window-dedicated)	Toggle the dedicated status of the current window, changing a normal window into a dedicated one and a dedicated window into a normal one. !\text{\text{\text{L}}} Use with care after learning about \text{\text{\text{\text{dedicated windows}}}.}
Dedicate Window Purpose	window-purpose can be use to dedicate window to specific purposes activated by pel-use-window-purpose user-option. The following commands are available. Some of them are also available in the PEL window info hydra which is invoked with its <f7> M-i hydra head. The hydra invoked command also prints window information, something the command invoked in other ways does not do.</f7>		
Toggle purpose- mode	• <f11> w P P * <f7> M-i M-p</f7></f11>	(purpose-mode &optional ARG)	Toggle Purpose mode on or off. This is a global minor mode. • PEL window info <a href="https://www.ncbe.ncbe.ncbe.ncbe.ncbe.ncbe.ncbe.ncbe</th></tr><tr><th>Show purpose-
mode control
options</th><th><f11> w P ?</th><th>(pel-show-window-purpose-info
&optional APPEND)</th><th>Show 'purpose-mode' control user-options in *pel-window-info* buffer. • With non-nil optional APPEND argument; append text to the buffer. • Provides quick access to help/customization buffer to define the various purposes. • After modifying these you must compile the settings. Use <f11> w P C</th></tr><tr><th>Activate purpose-
mode settings</th><th><f11> w P C</th><th>(pel-compile-window-purpose-
user-options)</th><th>Activate the latest window-purpose user-options. • Always execute after modifying purpose-mode user-options</th></tr><tr><th>Toggle window dedication to its</th><th>• <f11> w P B</th><th>(purpose-toggle-window-buffer-
dedicated &optional WINDOW)</th><th>Toggle window WINDOW's dedication to its current buffer on or off.</th></tr><tr><th>current buffer</th><th>* <f7> M-i M-b</th><th>,</th><th>The PEL Window Info hydra instance of the command also print window info. The leading the WINDOW and a first to the command also print window info. The leading the window WINDOW and a first to the command also print window info.</th></tr><tr><th>Toggle window dedication to its purpose</th><th>• <f11> w P W * <f7> M-i M-w</th><th>(purpose-toggle-window-
purpose-dedicated &optional
WINDOW)</th><th> Toggle window WINDOW's dedication to its purpose on or off. The PEL Window Info <a href=" https:="" hydra.nistance.<="" th="">
Close all non dedicated to their purpose or buffer	<f11> w P 1</f11>	(purpose-delete-non-dedicated-windows)	Delete all windows that aren't dedicated to their purpose or buffer.
Load a purpose- aware window layout	<f11> w P L L</f11>	(purpose-load-window-layout &optional NAME LAYOUT-DIRS)	Load a window layout. Prompt the user for the name of a window layout. • It searches the layout in the default specified by defaults to 'purpose-layout-dirs'. • If 'purpose-use-built-in-layouts', then 'purposebuilt-in-layouts-dir' is also searched. • See 'purpose-find-window-layout' for more details.
Load a purpose- aware window layout from file	<f11> w P L 1</f11>	(purpose-load-window-layout- file &optional FILENAME)	Load window layout from file FILENAME, providing the default.
Save a purpose- aware window layout	<f11> w P L S</f11>	(purpose-save-window-layout NAME DIRECTORY)	Save a window layout. Prompt for NAME, the name to give the window layout, then prompt for DIRECTORY, the directory in which to save the layout. Tab completion provides default directory.
Save a purpose- aware window layout to file	<f11> w P L s</f11>	(purpose-save-window-layout- file &optional FILENAME)	Save window layout of current frame to file FILENAME. If FILENAME is nil, use 'purpose-default-layout-file' instead.
Load most recent purpose-aware window layout	<f11> w P L r</f11>	(purpose-reset-window-layout)	Load most recent window layout from 'purpose-reset-window-layouts' ring variable. • If there is no recent layout, do nothing.
Switch to buffer with purpose	<f11> w P S B</f11>	(purpose-switch-buffer-with- purpose &optional PURPOSE)	Prompt the user and switch to a buffer with purpose PURPOSE. If called interactively, or with PURPOSE nil, PURPOSE defaults to the current buffer's purpose.

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Switch to buffer without taking purpose into account	<f11> w P S b</f11>	(switch-buffer-without-purpose)	Same as C-x b when purpose-mode is not active.
Follow Mode		ws mode which applies all scroll com the Emacs Wiki Scroll All Mode page	nmands to all visible windows. To support mouse wheel or scroll bar you need to implement e.
See also: Scrolling	Emacs follow-mo	de using 3 windows	When Emacs follow-mode is used on 2 or more windows, these windows show the text of the same buffer spread across these windows that act as a one continuous stream. • Follow mode is a minor mode that combines windows into one tall virtual window. This is
	the first window goes to the bottom and then	continues there.	 accomplished by two main techniques: The windows always displays adjacent sections of the buffer. This means that whenever one window is moved, all the others will follow. (Hence the name Follow mode.) Should point (cursor) end up outside a window, another window displaying that point is selected, if possible. This makes it possible to walk between windows using normal cursor movement commands. Follow mode comes to its prime when used on a large screen and two or more side-by-side windows are used. The user can, with the help of Follow mode, use these full-height windows as though they were one.
Toggle follow-mode See also: <u>Scrolling</u>	• <f11> w f • <f11> f</f11></f11>	(follow-mode &optional ARG)	Toggle Follow mode. With a prefix argument ARG, enable Follow mode if ARG is positive, and disable it otherwise.
recentering in current window	The following 2 command do not move point, but reposition the text in the current window. These are quite useful as they can be used to refresh the view in the current window. See also: Navigation		
Position current line to window's Center / Bottom / Top. Refresh screen.	• C-1 • <f11> C-1 * <f7> 5</f7></f11>	(recenter-top-bottom &optional ARG)	Without argument: moves the current line to window: center -> top -> bottom. • With arg: centre first: • C-u C-1 C-1 C-1 C-1 • → center → bottom → center → top • With negative arg: bottom first: • C C-1 C-1 C-1 • → bottom → center → top • With arg 0: top first: • M-0 C-1 C-1 C-1 • → top → bottom → center • With numeric positive: move current line to window top position N • With negative numeric: move current line to bottom window position: -1 := last line • PEL provides the <f11> C-1 key binding because some modes use C-1 as a prefix key.</f11>
Reposition comment/definition in full view	• C-M-1 • C-[C-1 • Esc C-1	(reposition-window &optional ARG)	Attempts to make the current comment or current definition fully visible by scrolling the lines without changing the point. • Further invocations move it to the top of the window or toggle the visibility of comments that precede it (by scrolling the lines).

Windows - Reference

Topic/URL	Comment	
GNU Emacs — Displaying a Buffer in a Window	Describes the Emacs features related to displaying buffers inside windows.	
GNU Emacs Lisp — Displaying Buffers — The Zen of Buffer Display	Describes the rules Emacs tries to use to control the creation of new windows when they are created dynamically from commands.	
Controlling what window is used to display a buffer	See <u>f display-buffer</u>	