Input Completion (Emacs default, Helm, Ido, Ivy, Ivy/Counsel) 🚧

<u>Operation</u>	Keystroke	Function	Note		
Input Completion	Input completion := aut	omated completion of user inpu	it on prompts.		
	On Emacs, input completion is available when Emacs prompts for the name of a file, buffer, variable, function, command, and more. It offers help to complete your input. Several methods are supported, some are built-in or use a package that comes with Emacs, other require external packages. The				
DefaultIdo	available input completion methods are: • <u>Emacs default completion</u> method. The simplest method. Type text then use the <tab> key to get a list of potential candidates displayed inside the</tab>				
• <u>lvy</u>	*completion* buffer. • <u>Ido (Interactive Do)</u> , distributed with Emacs, is a much more powerful completion method. Several packages extend it further in various ways. PEL				
• Helm	supports several of them. • When basic ido activated, Ido completion is available in file (C-x C-f) and buffer name (C-x b) prompts. Extension are available:				
		- •	prompt down with M-x and M-X provide specialized completion. age, several other commands provide completion, like the help for objects (<f1> o), help for</f1>		
	variable (<f1></f1>	> v) and several other commar			
	provides completion	n for more commands than the l			
	be applied to the se	election.	mented by PEL where Ido is used for buffer and file prompts and Helm is used for the others.		
See also: Navigation		n for searching symbols defined			
200 a.co. <u>27</u>	The command pel-go	to-symbol (bound to M-g M-1	n) prompts for a symbol defined in the current buffer. M-y) prompts for the symbols defined in all buffers of the same type as the current one.		
Open this PDF file.	<f11> M-c <f1></f1></f11>	(pel-help-pdf &optional	Open the local copy of the <u>Sompletion/Input</u> PDF file unless a command prefix (like c-u)		
See also: <u>∑ Help/Info</u>		ÖPEN-WEB-PAGE)	was used. In that case it opens the Github-hosted file instead.		
Customize PEL Input	<f11> M-c <f2></f2></f11>	(pel-customize-pel	Syou can also type <f1> during completion prompt to open this PDF file. See below. Customize PEL input completion support: open PEL buffer support specific group.</f1>		
Completion Support See also: Customize	(111> M-C (12>	&optional OTHER-WINDOW)	If OTHER-WINDOW is non-nil (use C-u), display in other window.		
Customize Emacs & external package input	<f11> M-c <f3></f3></f11>	(pel-customize-library &optional OTHER-WINDOW)	Customize Emacs and external packages related to input completion, including: 1. helm		
completion support See also: Customize		,	ido ido-completing-read-plus		
			4. ido-grid-mode 5. ivy		
			counsel minibuffer: where the completion-style user-variable is defined.		
			8. smex • When a prefix argument (like C-u) opens the buffer inside another window.		
	Some of the available groups are only available when the corresponding feature is installed and loaded, see below. PEL will prompt if a required feature is not loaded and will attempt to load it if its installed. If it is not installed, it will request it to be installed. Note that Emacs will simply refuse to load a group when its related feature has not previously loaded since Emacs won't know about it. PEL simplifies this.				
Input Completion	9 1	, ,	ration (accessible via <f11> M-c <f2>) the following:</f2></f11>		
Mode Selection	 activation of external package that extend Emacs completion mechanisms via several customization pel-use- user-option variables, selection of Emacs initial behaviour of various aspects of completion via the customization pel-initial- user-options variables, a set of commands to modify the state of the selection during an Emacs editing session. The modification does not persist across Emacs editing sessions (like the customization selection do) but allow you to quickly change the input completion behaviour and adapt it during an editing session. A command that displays the current state of PEL controlled input completion mechanisms. 				
	The pel-pkg-for-completion customization group provides the ability to activate the following features: 1. Ido mode completion. Built-in Emacs but not activated by default. PEL activates it when pel-use-ido user-option is set to t. • Several other packages attempt to extend Ido or provide Ido in more prompts, including the following supported by PEL: • Ido ubiquitous mode external package. PEL activates it when pel-use-ido-completing-read+ user-option is set to t.				
	• It extends Ido to more prompting commands. 🛕 I had mixed results with this package. 🚧 More investigation is needed.				
	 * **\overline{\text{smex}} \text{ external package; Ido completion for M-x } ? PEL activates it when pel-use-smex user-option is set to t. * It extends Ido to M-x , and provides M-X for Ido restricted to major modes. 				
	• Delia ido-vertical-mode external package. Pelactivates it when pel-use-ido-vertical-mode user-variable is set to t.				
	 It changes Ido match presentation to shows Ido matches in vertical lines, potentially with a match count. Similar to what Ivy does. A PEL currently does not activate ido-vertical-mode because it has a bug that breaks Ido. If you already installed it via PEL, remove 				
	it from yo	our ~/.emacs.d/elpa directory ar	nd remove all reference to it from your ~/.emacs.d/emacs-customization.el file.		
	2. V lvy mode cor		activates it when pel-use-ido-grid-mode user-variable is set to t. : set pel-use-ivy to t		
			e : deset pel-use-counsel to t		
	3. We Helm mode completion : Let set pel-use-helm to t. • Ido/Helm mode, implemented by PEL, where Ido is used for dealing with Files and buffers and Helm is used everywhere else.				
	The customization group also provides these user-options that select Emacs initial behaviour: • nel-initial-completion-mode: identifies the completion mode used when Emacs starts				
	 pel-initial-completion-mode: identifies the completion mode used when Emacs starts. pel-initial-ido-geometry: identifies the geometry of the Ido prompt. It is used when Ido completion is used. 				
	PEL makes the following	commands available to change	e the completion mode and to see which one is currently active.		
Select the completion mode	<f11> M-c M-c</f11>	(pel-select-completion-mode)	Prompt user for completion mode to activate. The available modes depend on what is currently activated by customization. See the list above.		
Toggle Ido ubiquitous mode	<f11> M-c M-u</f11>	(pel-toggle-ido-ubiquitous)	Toggle the 'ido-ubiquitous-mode'. This adds Ido completion to a large set of prompting commands that normally do not support Ido.		
	You can add more cor	nmands with completion (eg. de	ng Ido completion will also provide ivy and helm completion when those modes are selected. escribe-variable) via the ido-completing-read-plus customization group by adding them to the me by adding them in the ido-cr+function-blacklist user-option.		
Change Ido Presentation	<f11> M-c M-g</f11>	(pel-select-ido-geometry)	Select the way Ido shows the match selection: • emacs default : a linear selection		
Direction ###			grid-collapsed: ido-grid-mode starting collapsed: type Tab to expand grid grid-expanded: ido-grid-mode already expanded		
			This allows modification of the initial values identified by the user-option variables.		
Chow what ages ! . !		(not show setting	Requires one or both of the following external packages: ido-grid-mode		
Show what completion mode is currently used.	• <f11> ? M-c • <f11> M-c ?</f11></f11>	(pel-show-active- completion-mode)	Display the completion mode currently used, and the Ido prompt geometry.		

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Default Input Completion	Emacs default input completion is available when no other completion mechanism is active. • The keys available to expand or act on the completed name (or symbol) are listed below. • See Emacs Completion Example for a simple example of how to use completion keys.		
	 basic: complete with the same beginning partial-completion: agressive completion: em-l-m matches emacs-lisp-mode. emacs22: same as basic but ignores text in minibuffer after point substring: must contain text in minibuffer & point position controls matching extension added to beginning, end and where point is located. initials: a very aggressive completion style: attempt to complete acronyms and initialisms: for example: lch matches list-command- 		
	history. The first 3 are available in the default value of completion-style. They can be added by customization: • M-x customize-option RET completion-style RET to customize this variable, • M-x customize-group RET minibuffer RET access its group or • the PEL <f11> M-c <f2> key sequence.</f2></f11>		
Complete word	SPC	(minibuffer-complete-word)	Complete the minibuffer contents at most a single word. After one word is completed as much as possible, a space or hyphen is added, provided that matches some possible completion. Return nil if there is no valid completion, else t.
Complete input	Tab	(minibuffer-complete)	Complete the minibuffer contents as far as possible. Type it twice if no input to list all choices. Return nil if there is no valid completion, else t. If no characters can be completed, display a list of possible completions. If you repeat this command after it displayed such a list, scroll the window of possible completions.
List all possible choices	?	(minibuffer-completion-help &optional START END)	Display a list of possible completions of the current minibuffer contents.
Complete and exit	• RET • C-j	(minibuffer-complete-and-exit)	Exit if the minibuffer contains a valid completion. Otherwise, try to complete the minibuffer contents. If completion leads to a valid completion, a repetition of this command will exit. If 'minibuffer-completion-confirm' is 'confirm', do not try to complete; instead, ask for confirmation and accept any input if confirmed. If 'minibuffer-completion-confirm' is 'confirm-after-completion', do not try to complete; instead, ask for confirmation if the preceding minibuffer command was a member of 'minibuffer-confirm-exit-commands', and accept the input otherwise.
Escape	C-g	(abort-recursive-edit)	Abort the command that requested this recursive edit or minibuffer input.
Select completion list window	• M-v • <pgup></pgup>	(switch-to-completions)	Select the completion list window: move point to the window listing all possible completions.
In Completion Window	The following commands are available inside the completion window listing all possible completions.		
From completion window: • Select a completion	• RET • <mouse-2></mouse-2>	(choose-completion &optional EVENT)	Choose the completion at point. • If EVENT, use EVENT's position to determine the starting position.
Move to next completion	• Tab • <right></right>	(next-completion N)	Move to the next item in the completion list. • With prefix argument N, move N items (negative N means move backward).
Move to previous completion	• S-Tab • <left></left>	(previous-completion N)	Move to the previous item in the completion list.
Quit completion window	q	(quit-window &optional KILL WINDOW)	Quit the window showing it and selects the window showing the minibuffer.
Kill completion buffer	z	(kill-current-buffer)	Kill completion buffer it and delete the window showing it.
• Ido Input Completion	Emacs also provides the Ido (Interactive Do) completion mechanism in a separate package, part of Emacs distribution but not activated by default. PEL activates the following extra Ido features when Ido mode is selected: • Ido mode used everywhere, which for Ido mode means for both file and buffer prompts. It does: (ido-everywhere 1) • Flex matching is enabled. • Disable need for confirmation when creating new buffers with C-x b		
. all premote	Ido has a large number of key bindings, listed in the next 4 sections. Commands available in all Ido prompts		
all prompts Help			o prompt even though focus might move to the new PDE display window
Open this <u>S Completion/</u> Input PDF file or the web page See also: <u>S Help/Info</u> Match rule control	Open this PDF help. Does not modify state of the Ido prompt even though focus might move to the new PDF display window. (pel-help-on-completion-input &optional OPEN-WEB-PAGE) Open the input completion help PDF file. With a prefix (like C-u) use the default browser to open the GitHub web page. Note that if your browser can render PDF content you will then be able to easily navigate across PDF pages that have several web links. The following commands control various aspects of Ido matching mechanism.		
Toggle inclusion of		(ido-toggle-ignore)	Toggle ignoring items for the current prompt:
ignored files.	C-a	(ido-toggie-ignore)	 In ido-buffer: toggle ignoring special buffers identified in the 'ido-ignore-buffers' user-option. In ido-find-file: toggle ignoring files specified with 'ido-ignore-files' user-option, files with extensions listed in 'completed-ignored-extensions' dired user-option (when 'ido-ignore-extension' user-option is non-nil) For example, traditional behaviour is: not to list buffers whose names begin with a space character, not to list files whose names begin with a #, for which the regexp is '\#', Customize these user-option variables in the ido customization group.
Toggle case sensitivity in the search	• C-c • M-c	(ido-toggle-case)	Toggle the value of 'ido-case-fold' which controls whether searching for buffer or file name should ignore case. ⚠ The C-c binding is often hidden by the C-c key prefix used by various packages. PEL adds the M-c key binding to the common ido key map for that purpose. ➡ This is quite useful in OS that treat their file names are can sensitive names (like Unix and Linux, but unfortunately not MacOSI) or just if you want to quickly access names that have specific upper or lower case letters in it. For example using case sensitive matching will help select a Makefile.

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Toggle prefix matching method	С-р	(ido-toggle-prefix)	Toggle the value of user-option variable 'ido-enable-prefix'. It's nil by default. Non-nil means only match if the entered text is a prefix of file name. This behavior is like the standard Emacs completion. If nil, match if the entered text is an arbitrary substring. For example: "base" will match pel—base.el if ido-enable-prefix is nil, but no it is is t.
Toggle regular expression matching See also: <u>∑ Search/</u> Replace	C-t	(ido-toggle-regexp)	Toggle the value of 'ido-enable-regexp' to enable Ido to perform matching using regular expressions. This is nil (off) by default. You can customize this user-option variable. Regular expression matching is useful to select file with specific extensions. See Search/Replace for Emacs regular expression meta characters.
Completion		ands control various aspects of	
Show all possible completions	?	(ido-completion-help)	Show all possible completions in a completion list buffer.
Complete current selection	Tab	(ido-complete)	Try and complete the current pattern amongst the item names. • If several candidates, show the list in the *Ido Completions* buffer.
Complete current selection or insert space	SPC	(ido-complete-space)	Try completion unless inserting the space makes sense. • When space cannot be accepted as input, open a completion list buffer. • With list buffer already opened, scroll one page down and roll back to top.
Narrow list of candidates to current list of matching items.	• C-SPC • C-@	(ido-restrict-to-matches &optional REMOVEP)	Set current item list to the currently matched items. Further match only inside this narrowed list. • With prefix argument, remove the currently matched items instead and start matching against the remaining items.
Undo/redo last Ido "directory merge" proposing file in another directory	C-z	(ido-undo-merge-work- directory &optional TEXT TRY REFRESH)	Undo or redo last Ido directory merge operation. If no merge has yet taken place, toggle automatic merging option. Ido "directory merge" occurs when trying to match a file name found in other directory.
Select match, create buffer/file if none	C-j	(ido-select-text)	Select entered name without attempt for completion. If no buffer or file exactly matching the prompt exists, create a new one. buffer: prompt for confirmation as controlled by `confirm-nonexistent-file-or-buffer' and ido-create-new-buffer' user-options. file: prompt for confirmation as controlled by `confirm-nonexistent-file-or-buffer' user-option.
Select first match	• C-m • RET	(ido-exit-minibuffer)	Exit minibuffer, but make sure we have a match if one is needed. • Select the first element in the list of possible match.
Select next match	• C • C-s • <right></right>	(ido-next-match)	Move to next match element. Put first element of 'ido-matches' at the end of the list.
Select previous match	• C-, • C-r • <left></left>	(ido-prev-match)	Move to last match element. Put last element of 'ido-matches' at the front of the list.
Edit user inputSwitch mode		nside user input used as the ba	sis for the match search. Use these to modify the user input to update matching request. their position.
Delete next char or enter Dired	C-d	(ido-magic-delete-char ARG)	Delete following char in user input or perform magic action. • Before any user entry for item matching in the following file and directory prompt ido functions, preform the following: • ido-dired C-d enter 'dired' on current directory.' • ido-find-file C-d enter 'dired' on current directory. • ido-list-directory C-d enter 'dired' on current directory.
Move backward in user-input or change to buffer prompt	С-Ь	(ido-magic-backward-char ARG)	Move backward in user input. Inside directory path move up one directory level. • Before any user entry for item matching, on the left-most character switch to a buffer prompt selected depending on the currently executing command: • ido-buffer C-b fallback to 'switch-to-buffer' • ido-dired C-b switch to 'ido-buffer' • ido-find-file C-b switch to 'ido-buffer' • ido-list-directory C-b switch to 'ido-buffer'
Move forward in user input or change to non-Ido find-file	C-f	(ido-magic-forward-char ARG	Move forward on user-input. • Before any user entry item matching, switch to a buffer prompt selected depending on the currently executing command: • ido-buffer C-f switch to 'ido-find-file'. • ido-dired C-f fallback to non-ldo 'dired'. • ido-find-file C-f fallback to non-ldo 'find-file'. • ido-list-directory C-f fallback to non-ldo brief 'dired'.
Enter non-matching edit mode	С-е	(ido-edit-input)	Switch to a temporary non-matching edit mode for editing the absolute buffer/file/directory name entered so far with Ido; terminate by RET to return to matching mode. If cursor is not at the end of the user input, move to end of input. When this is selected the matching mechanism is paused. It restarts with RET.
Take/edit first match	M-SPC	(ido-take-first-match)	Use first matching item as input text. Leave the cursor at the end of input text. Useful, like C-e to edit a match and create a new file with similar name. Then type C-j to force Ido to use that name and open a new file.
• Escape	Exit the Ido prompt.		
Escape prompt	C-g	(minibuffer-keyboard-quit)	Abort the command that requested this recursive edit or minibuffer input.
buffer prompts	In C-x b buffer prompts	, all common commands are av	railable plus the commands listed below. See <u>Suffers</u>
Change to file prompt	C-x C-f	(ido-enter-find-file)	Drop into 'find-file' from buffer switching.
Change to iBuffer window See also: <u>Natifiers</u>	С-х С-Ь	(ibuffer & optional OTHER- WINDOW-P NAME QUALIFIERS NOSELECT SHRINK FILTER-GROUPS FORMATS)	Open an iBuffer window. See ∑ Buffers for more information on ibuffer command.
Bury buffer	C-S-b	(ido-bury-buffer-at-head)	Bury the buffer at the head of the Ido matches, moving it a the end of the list of matching buffers, before the name of current buffer.
Kill buffer identified as the first match	C-k	(ido-kill-buffer-at-head)	Kill the buffer at the head of 'ido-matches'. • If cursor is not at the end of the user input, delete to end of inpu
Toggle use of virtual buffers	С-о	(ido-toggle-virtual-buffers)	Toggle the use of virtual buffers. • With virtual buffers on, you see names of buffers that have been opened recently even if they have been closed since then. This includes files recently opened.
dir prompts	In C-x d or C-x C-d	lirectory related prompts, all cor	nmon commands are available plus the commands listed below. See <u>File-mngt</u>
Change to buffer prompt	C-x C-b	(ido-enter-switch-buffer)	Drop into 'ido-switch-buffer' from file switching.
			<u> </u>

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Change to non-ido listing directory	C-x C-f	(ido-fallback-command &optional FALLBACK- COMMAND)	Drop into a non-ido directory listing command: no interpretation, no proposal, accept input as typed.
Enter Dired buffer	C-x C-d	(ido-enter-dired)	Drop into 'dired' from file switching: open the Dired buffer with current directory name.
Next directory in search	<down></down>	(ido-next-match-dir)	Find next directory in match list. If work directories have been merged, cycle through directories for first matching file.
Previous directory in search	<up></up>	(ido-prev-match-dir)	Find previous directory in match list. • If work directories have been merged, cycle through directories for first matching file.
To next directory in list	• <m-up> • M-p</m-up>	(ido-prev-work-directory)	Change to next working directory in list.
To previous directory in list	• <m-down> • M-n</m-down>	(ido-next-work-directory)	Change to previous working directory in list.
Delete char backwards to go up 1 directory level	• 区 • DEL • <backspace></backspace>	(ido-delete-backward-updir COUNT)	Delete char backwards, or at beginning of buffer, go up one level.
Delete chars backwards to go up 1 directory level	M-≪	(ido-delete-backward- word-updir COUNT)	Delete all chars backwards, or at beginning of buffer, go up one level.
Go up 1 directory level	c-⊠	(ido-up-directory &optional CLEAR)	Go up one directory level.
Re-read directory	C-1	(ido-reread-directory)	Read current directory again. May be useful if cached version is no longer valid, but directory timestamp has not changed (e.g. with FTP or on Windows).
Wide directory	M-d	(ido-wide-find-dir-or- delete-dir &optional DIR)	Prompt for DIR to search for using 'find', starting from current directory. • If input stack is non-empty, delete current directory component.
Move to previous directory, push it in list of choices.	м-ь	(ido-push-dir)	Move to previous directory in file name, push current input on stack.
Previous directory in search	M-v	(ido-push-dir-first)	Move to previous directory in file name, push first match on stack.
	M-f	(ido-wide-find-file-or-pop- dir ARG)	Expand absolute path of the directory and leave Ido prompting mode.
Remove directory from history	M-k	(ido-forget-work-directory)	Remove current directory from the history
	M-m	(ido-make-directory &optional DIR)	Prompt for DIR to create in current directory.
Show next element in search history	<pgdn></pgdn>	(next-history-element N)	Puts next element of the minibuffer history in the minibuffer. With argument N, it uses the Nth following element.
Previous file name	М-о	(ido-prev-work-file)	Change to previous working file name in list. These 2 commands seem to have invalid docstrings, I assume the function names are correct. They move from file to file but i's not obvious what the direction is. More investigation is needed.
Next fil entame	M-C-o	(ido-next-work-file)	Change tonext working file name in list.
Show previous element in search history	<pgup></pgup>	(previous-history-element N)	Puts previous element of the minibuffer history in the minibuffer. With argument N, it uses the Nth previous element.
Search for file matching input	M-s	(ido-merge-work- directories)	Search (and merge) work directories for files matching the current input string. This searches in all Ido remembered directories, supporting the match mechanisms. For example, if you want to open the file std_base_type.h while editing some Python file but you know you visited a C directory that had that file, type "_base" followed by M-s
file prompts	In C-x C-f file prompt	s, all common commands, direc	d commands and the following commands are available. See File-mngt
Delete disk file at head	C-k	(ido-delete-file-at-head)	Delete disk file identified at the head of the matches. Prompt for deleting the file. Then return to the prompt.
Insert word at point in file-name prompt	C-0	(ido-copy-current-word ALL)	Append the word located at the location of the currently edited buffer (used just before the prompt stated) to the file name used in the prompt. This is a way to quickly build a file name using the current directory and the new word (which will include the file extension if there is any in the word at point).
Insert file name of current buffer to prompt	С-w	(ido-copy-current-file-name ALL)	Insert file name of current buffer. If repeated, insert text from buffer instead. Use this to create or search for file with the same name as but with a different extension than current one.
Toggle literal reading fo file	M-1	(ido-toggle-literal)	Toggle literal reading of this file. • When reading a file literally, Emacs visit it in Fundamental mode and does not interpret the type of file and does not use the major mode normally associated with the file.

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>	
Ivy/Counsel/Swiper			upport over a large number of packages.	
	 Ivy is easy and intuitive to use; it shows all potential candidates on several lines. It supports several commands. The commands and key bindings are listed in the following sections. PEL adds the <f1> key binding to open this page, although Ivy provides a well written help page that is accessible with C-h m and contains most of this information.</f1> 			
	See the <u>Ivy</u> , <u>Counsel</u> , <u>Swiper Tutorial</u> Requires <u>Ivy</u> external package. PEL activates it when the <u>pel-use-ivy</u> user-option is set to t.			
Open this <u>∑ Completion/</u>	<f1></f1>	(pel-help-on-completion-	Open the input completion help PDF file.	
Input PDF file or the web page		input &optional OPEN-WEB- PAGE)	 With a prefix (like C-u) use the default browser to open the GitHub web page. Note that if your browser can render PDF content you will then be able to easily navigate across PDF pages that have several web links. 	
See also: <u>Nelp/Info</u>			Use the C-h key prefix to access Emacs help commands, as PEL uses <f1></f1> for this command.	
Help for Ivy	C-h m	(ivy-help)	Open a window with the help for 'ivy'.	
Keys for selection navigation	Ivy display selections over		ng keys to navigate through them.	
Select next candidate	• C-n • <down></down>	(ivy-next-line)	Select next candidate	
Select previous candidate	• C-p • <up></up>	(ivy-previous-line)	Select previous candidate	
Scroll to next page	C-v	(ivy-scroll-up-command)	Next page of candidates	
Scroll to previous page	M-v	(ivy-scroll-down-command)	Previous page of candidates	
Select first candidate	M-<	(ivy-beginning-of-buffer)	Select first candidate	
Select last candidate	M->	(ivy-end-of-buffer)	Select last candidate	
Keys for single selection	The following commands	act on a single item selection.		
Select candidate end exit	• C-m • RET	(ivy-done)	Exit the minibuffer with the selected candidate. • Exit with the current action.	
Select item and execute single action	М-о	(ivy-dispatching-done)	Select item and prompt for a specific action. One of:	
Select candidate/ continue directory completion	с-ј	(ivy-alt-done &optional ARG)	Exit the minibuffer with the selected candidate. • When the candidate is a directory, enter it. Otherwise, exit with the current action. • When ARG is t, exit with current text, ignoring the candidates.	
	Tab	(ivy-partial-or-done)	Complete the minibuffer text as much as possible. • Attempt partial completion, extending the current input as much as possible. • Tab Tab is the same as C-j.	
	С-М-ј	(ivy-immediate-done)	Exit the minibuffer with current input instead of current candidate. Exit with the current action, calling it on the current input instead of the current candidate. This is useful especially when creating new files or directories - often the input will match an existing file, which you don't want to select.	
Select a candidate with avy	• C-'	(ivy-avy)	Select a candidate from the current page with avy and exit with the current action. Any works by typing 2 characters that are replaced with a highlight to use. The C-' binding only works in graphics mode. When pel-use-avy is t, PEL adds the M-H key binding that works also in terminal mode. Requires the avy and ivy-avy external packages PEL activates both of them when the pel-use-avy user option is set to t.	
Keys for multiple selections	The following commands act on a multiple item selection, which is used in some context.			
	C-M-m	(ivy-call)	Non-exiting version of C-m	
	C-M-n	(ivy-next-line-and-call)	Combines C-n and C-M-m.	
	С-М-р	(ivy-previous-line-and-call)	Combines C-p and C-M-m.	
	С-М-о	(ivy-dispatching-call)	Non-exiting version of M-o	
Keys that alter minibuffer input	The following commands	modify the user input, using the	e history of previously selected items.	
Next input in history	M-n	(ivy-next-history-element)	Select the next history element or symbol/URL at point.	
Previous input in history	м-р	(ivy-previous-history- element)	Select the previous history element or symbol/URL at point.	
	C-r	(ivy-reverse-i-search)	Start a recursive completion session to select a history element.	
	м-ј	(ivy-yank-word)	Insert the sub-word at point into the minibuffer.	
Narrow selection to current matches	• S-SPC • C-SPC	(ivy-restrict-to-matches)	Deletes the current input, and resets the candidates list to the currently restricted matches. • This is how lvy provides narrowing in successive tiers. • The S-SPC binding only works in graphics mode. PEL adds the C-SPC key binding that works also in terminal mode.	
Other				
Copy selections in kill ring	M-w	(ivy-kill-ring-save)	Copies the selected candidates to the kill ring; when the region is active, copies the active region.	
Saving current completion in buffer				
List selection in separate buffer	C-c C-o	(ivy-occur)	Saves the current candidates to a new buffer; the list is active in the new buffer.	
Select item from buffer	• RET • <mouse-1></mouse-1>	(ivy-occur-press-and- switch)	Used in the new buffer calls the appropriate action on the selected candidate.	
	-mouse-1/	,		

<u>Operation</u>	Keystroke	Function	Note
Using ivy Hydra	When in Hydra, C-o or	7 0110 11011	
	 Hydra reduces key strokes, for example: C-n C-n C-n is C-o jjjj in Hydra. Besides certain shorter keys, Hydra shows useful info such a case folding and the current action. Additionally, here are the keys that are otherwise not bound: 		
	 < and > adjust the height of the minibuffer. c (ivy-toggle-calling) - toggle calling the current action each time a different candidate is selected. M (ivy-rotate-preferred-builders) - rotate regex matcher. w and s scroll the actions list. 		
	Minibuffer editing is disabled when Hydra is active.		
	Requires the <u>hydra</u> ex	ternal package 🍱 PEL provide	s Hydra when pel-use-hydra user option is set to t.
Start ivy Hydra	С-о	(hydra-ivy/body)	Invokes Hydra menus with key shortcuts.
• Helm Input Completion	The <u>Helm</u> external package is very powerful and comes with a large set of features. It does not use the minibuffer and does not use the <tab> key for completion; you just need to type some part of the text you search for and Helm will pattern match it. Once you enter a command with Helm input completion a Helm buffer shows a list of potential match with the most probable on top. The list is updated as you type and refine your search pattern. You can resize the Helm window when it is opened. You can navigate the pattern match list, select one or several matches (for some of the commands that open the Helm buffer like when you type C-x b to switch/open other buffer or when you type C-x C-f to find/open file(s). You can also perform other actions on the selections such as opening a file as root. And you can perform a Helm action and keep the Helm window open (as it normally closes right after you made your selection for the command you were executing. And Helm comes with extensions of other commands, like running top and allowing pattern match to filter the list of processes you want to see. See the document title "A package in a league of its own: Helm" for a more comprehensive overview with screen shots. PEL provides a basic configuration for Helm that is similar to the extended config described in that document. But it does not set Helm values that can be customized. Customize Helm with M-x customize-group helm or with <f11> <f2> g helm. (See also: Customize)</f2></f11></tab>		
	PEL sets the Helm globa	prefix to be C-c h . Once held	m mode is active (or ido/helm mode) you can execute global Helm commands via that prefix key.
Operation inside Helm buffer		ens up as soon as you launch a escribe the commands available	
Resize Helm Window	Use the following comma	and to reposition the Helm buffe	er window from horizontal to vertical, going through the 4 possible quadrants of the frame.
Resize Helm window	C-t	(helm-toggle-resplit-and- swap-windows)	Multi key command to re-split and swap helm window. • First call runs 'helm-toggle-resplit-window', and second call within 1s runs 'helm-swap-windows'.
Navigate Helm Pattern buffer	The following commands	move the currently selected pa	attern line in the Helm pattern buffer list
Move to next pattern	• C-n • <down></down>	(helm-next-line &optional ARG)	Move selection to the next ARG line(s). • When numeric prefix arg is > than the number of candidates, then move to the last candidate of current source (i.e. don't move to next source).
Move to previous pattern	• C-p • <up></up>	(helm-previous-line &optional ARG)	Move selection to the ARG previous line(s). • Same behavior as 'helm-next-line' when called with a numeric prefix arg.
Move down 1 page	• C-v • <pgdn></pgdn>	(helm-next-page)	Move selection forward with a pageful.
Move up 1 page	• M-v • <pgup></pgup>	(helm-previous-page)	Move selection back with a pageful.
Move to top of list	M-<	(helm-beginning-of-buffer)	Move selection at the top of helm buffer list.
Move to end of list	M->	(helm-end-of-buffer)	Move selection at the bottom of helm buffer list.
Select patterns in Helm Pattern buffer	The following commands	s, available only for some input li	ists, allow you to mark several patterns to be processed.
Toggle line selection	• C-SPC • C-@	(helm-toggle-visible-mark ARG)	Toggle helm visible mark at point ARG times. If ARG is negative toggle backward.
Select all	M-a	(helm-mark-all &optional ALL)	Mark all visible unmarked candidates in current source. • With a prefix arg mark all visible unmarked candidates in all sources.
Operate on selection		are used to act on the selected	
Copy Helm selection to current buffer	• C-c C-i • C-c <tab></tab>	(helm-copy-to-buffer)	Copy selection or marked candidates to 'helm-current-buffer'. • Note that the real values of candidates are copied and not the display values.
Act on current selection(s)	RET	(helm-maybe-exit- minibuffer)	 If Helm session has completed the search and is displaying the result, exit the helm session and act on the current selection, doing what corresponds to the command that launched the Helm session. The action applies to all selected candidates and is applied inside the window that was current when the Helm session started. so if point is inside window A when you issue a C-x C-f command to find a file and select several files then these files will be opened in buffers whose window will split the area of the previous window A.
Act on current selection(s) List possible actions First is the native action Other possible actions follow. The list depends on the original command.	• <tab> • C-i</tab>	(helm-select-action)	 Select an action for the currently selected candidate(s). If action buffer is selected, back to the helm buffer. If several actions are possible, display a menu of possible actions, their assigned function key (for the first 12 possible action), a short descriptive link that may include possible key binding for the action. The list of possible actions can be quite long. For example, the list of actions shown in a Helm session opened to visit a file can include about 50 different actions that range from just visiting the file to diffing it, making a backup, compiling it, opening in hexadecimal editing, etc The action applies to all selected candidates and is applied inside the window that was current when the Helm session started. so if point is inside window A when you issue a C-x C-f command to find a file and select several files then these files will be opened in buffers whose window will split the area of the previous window A.
Perform action on current pattern without quitting Helm	• C-j • C-M-i	(helm-execute-persistent- action &optional ATTR SPLIT)	Perform the associated action ATTR without quitting helm. • The action applies to the current pattern, not lines that might have been selected.
Helm Help	Once Helm is running the following command open Helms manual.		
Open Helm Manual (in Org mode format)	• C-h m • C-c ?	(helm-help)	Generate helm's help according to 'help-message' attribute. If 'helm-buffer' is empty, provide completions on 'helm-sources' to choose its local documentation. If source doesn't have any 'help-message' attribute, a generic message explaining this is added instead. The global 'helm-help-message' is always added after this local help.
Launching Helm Search	The rest of this table needs to be completed.		

<u>Operation</u>	<u>Keystroke</u>	Function	<u>Note</u>
Helm special commands	Helm provides the following commands that integrate with other tools. With PEL, when Helm or Ido/Helm mode is active the <f11> h key prefix is active giving quick access to these useful helm commands.</f11>		