

GNU Emacs Reference Card

Starting Emacs

To enter GNU Emacs 21, just type its name: `emacs`

To read in a file to edit, see Files, below.

Leaving Emacs

suspend Emacs (or iconify it under X) `C-z`
exit Emacs permanently `C-x C-c`

Files

read a file into Emacs `C-x C-f`
save a file back to disk `C-x C-s`
save **all** files `C-x s`
insert contents of another file into this buffer `C-x i`
replace this file with the file you really want `C-x C-v`
write buffer to a specified file `C-x C-w`
version control checkin/checkout `C-x C-q`

Getting Help

The help system is simple. Type `C-h` (or `F1`) and follow the directions. If you are a first-time user, type `C-h t` for a **tutorial**.

remove help window `C-x 1`
scroll help window `C-M-v`
apropos: show commands matching a string `C-h a`
show the function a key runs `C-h c`
describe a function `C-h f`
get mode-specific information `C-h m`

Error Recovery

abort partially typed or executing command `C-g`
recover a file lost by a system crash `M-x recover-file`
undo an unwanted change `C-x u` or `C-_`
restore a buffer to its original contents `M-x revert-buffer`
redraw garbaged screen `C-l`

Incremental Search

search forward `C-s`
search backward `C-r`
regular expression search `C-M-s`
reverse regular expression search `C-M-r`
select previous search string `M-p`
select next later search string `M-n`
exit incremental search `RET`
undo effect of last character `DEL`
abort current search `C-g`

Use `C-s` or `C-r` again to repeat the search in either direction. If Emacs is still searching, `C-g` cancels only the part not done.

Motion

entity to move over
character `C-b` **backward** `C-f` **forward**
word `M-b` `M-f`
line `C-p` `C-n`
go to line beginning (or end) `C-a` `C-e`
sentence `M-a` `M-e`
paragraph `M-{` `M-}`
page `C-x [` `C-x]`
sexp `C-M-b` `C-M-f`
function `C-M-a` `C-M-e`
go to buffer beginning (or end) `M-<` `M->`

scroll to next screen `C-v`
scroll to previous screen `M-v`
scroll left `C-x <`
scroll right `C-x >`
scroll current line to center of screen `C-u C-l`

Killing and Deleting

entity to kill
character (delete, not kill) `DEL` **backward** `C-d` **forward**
word `M-DEL` `M-d`
line (to end of) `M-O C-k` `C-k`
sentence `C-x DEL` `M-k`
sexp `M-- C-M-k` `C-M-k`

kill region `C-w`
copy region to kill ring `M-w`
kill through next occurrence of *char* `M-z char`

yank back last thing killed `C-y`
replace last yank with previous kill `M-y`

Marking

set mark here `C-@` or `C-SPC`
exchange point and mark `C-x C-x`
set mark *arg* words away `M-@`
mark **paragraph** `M-h`
mark **page** `C-x C-p`
mark **sexp** `C-M-@`
mark **function** `C-M-h`
mark entire **buffer** `C-x h`

Query Replace

interactively replace a text string `M-%`
using regular expressions `M-x query-replace-regexp`

Valid responses in query-replace mode are
replace this one, go on to next `SPC`
replace this one, don't move `,`
skip to next without replacing `DEL`
replace all remaining matches `!`
back up to the previous match `^`
exit query-replace `RET`
enter recursive edit (`C-M-c` to exit) `C-r`

Multiple Windows

When two commands are shown, the second is for "other frame." ■

delete all other windows `C-x 1`
split window, above and below `C-x 2` `C-x 5 2`
delete this window `C-x 0` `C-x 5 0`
split window, side by side `C-x 3`
scroll other window `C-M-v`
switch cursor to another window `C-x o` `C-x 5 o`
select buffer in other window `C-x 4 b` `C-x 5 b`
display buffer in other window `C-x 4 C-o` `C-x 5 C-o`
find file in other window `C-x 4 f` `C-x 5 f`
find file read-only in other window `C-x 4 r` `C-x 5 r`
run Dired in other window `C-x 4 d` `C-x 5 d`
find tag in other window `C-x 4 .` `C-x 5 .`

grow window taller `C-x ^`
shrink window narrower `C-x {`
grow window wider `C-x }`

Formatting

indent current **line** (mode-dependent) `TAB`
indent **region** (mode-dependent) `C-M-\`
indent **sexp** (mode-dependent) `C-M-q`
indent region rigidly *arg* columns `C-x TAB`
insert newline after point `C-o`
move rest of line vertically down `C-M-o`
delete blank lines around point `C-x C-o`
join line with previous (with *arg*, next) `M-^`
delete all white space around point `M-\`
put exactly one space at point `M-SPC`
fill paragraph `M-q`
set fill column `C-x f`
set prefix each line starts with `C-x .`
set face `M-g`

Case Change

uppercase word `M-u`
lowercase word `M-l`
capitalize word `M-c`
uppercase region `C-x C-u`
lowercase region `C-x C-l`

The Minibuffer

The following keys are defined in the minibuffer.

complete as much as possible `TAB`
complete up to one word `SPC`
complete and execute `RET`
show possible completions `?`
fetch previous minibuffer input `M-p`
fetch later minibuffer input or default `M-n`
regex search backward through history `M-r`
regex search forward through history `M-s`
abort command `C-g`

Type `C-x ESC ESC` to edit and repeat the last command that used the minibuffer. Type `F10` to activate the menu bar using the minibuffer.

GNU Emacs Reference Card

Buffers

select another buffer C-x b
 list all buffers C-x C-b
 kill a buffer C-x k

Transposing

transpose **characters** C-t
 transpose **words** M-t
 transpose **lines** C-x C-t
 transpose **sexps** C-M-t

Spelling Check

check spelling of current word M-\$
 check spelling of all words in region M-x ispell-region
 check spelling of entire buffer M-x ispell-buffer

Tags

find a tag (a definition) M-.
 find next occurrence of tag C-u M-.
 specify a new tags file M-x visit-tags-table
 regexp search on all files in tags table M-x tags-search
 run query-replace on all the files M-x tags-query-replace
 continue last tags search or query-replace M-,

Shells

execute a shell command M-!
 run a shell command on the region M-|
 filter region through a shell command C-u M-|
 start a shell in window *shell* M-x shell

Rectangles

copy rectangle to register C-x r r
 kill rectangle C-x r k
 yank rectangle C-x r y
 open rectangle, shifting text right C-x r o
 blank out rectangle C-x r c
 prefix each line with a string C-x r t

Abbrevs

add global abbrev C-x a g
 add mode-local abbrev C-x a l
 add global expansion for this abbrev C-x a i g
 add mode-local expansion for this abbrev C-x a i l
 explicitly expand abbrev C-x a e
 expand previous word dynamically M-/

Regular Expressions

any single character except a newline . (dot)
 zero or more repeats *
 one or more repeats +
 zero or one repeat ?
 quote regular expression special character *c* *c*
 alternative (“or”) \|
 grouping \ (...)
 same text as *n*th group \|*n*
 at word break \|b
 not at word break \|B

entity	match start	match end
line	^	\$
word	\<	\>
buffer	\‘	\’
class of characters	match these	match others
explicit set	[...]	[^ ...]
word-syntax character	\w	\W
character with syntax <i>c</i>	\s <i>c</i>	\S <i>c</i>

International Character Sets

specify principal language M-x set-language-environment
 show all input methods M-x list-input-methods
 enable or disable input method C-\
 set coding system for next command C-x RET *c*
 show all coding systems M-x list-coding-systems
 choose preferred coding system M-x prefer-coding-system

Info

enter the Info documentation reader C-h i
 find specified function or variable in Info C-h C-i

Moving within a node:

scroll forward SPC
 scroll reverse DEL
 beginning of node . (dot)

Moving between nodes:

next node n
previous node P
 move **up** u
 select menu item by name m
 select *n*th menu item by number (1-9) *n*
 follow cross reference (return with 1) f
 return to last node you saw l
 return to directory node d
 go to any node by name g

Other:

run Info **tutorial** h
quit Info q
 search nodes for regexp M-s

Registers

save region in register C-x r s
 insert register contents into buffer C-x r i
 save value of point in register C-x r SPC
 jump to point saved in register C-x r j

Keyboard Macros

start defining a keyboard macro C-x (
end keyboard macro definition C-x)
execute last-defined keyboard macro C-x e
 append to last keyboard macro C-u C-x (
 name last keyboard macro M-x name-last-kbd-macro
 insert Lisp definition in buffer M-x insert-kbd-macro

Commands Dealing with Emacs Lisp

eval **sexp** before point C-x C-e
 eval current **defun** C-M-x
 eval **region** M-x eval-region
 read and eval minibuffer M-:
 load from standard system directory M-x load-library

Simple Customization

customize variables and faces M-x customize

Making global key bindings in Emacs Lisp (examples):

```
(global-set-key "\C-cg" 'goto-line)
(global-set-key "\M-#" 'query-replace-regexp)
```

Writing Commands

```
(defun command-name (args)
  "documentation" (interactive "template")
  body)
```

An example:

```
(defun this-line-to-top-of-window (line)
  "Reposition line point is on to top of window.
With ARG, put point on line ARG."
  (interactive "P")
  (recenter (if (null line)
                0
                (prefix-numeric-value line))))
```

The *interactive* spec says how to read arguments interactively. Type C-h f *interactive* for more details.

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