

# GNU Emacs Reference Card

(for version 18)

## Starting Emacs

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

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

## Leaving Emacs

suspend Emacs (the usual way of leaving it) `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`  
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`  
run Dired, the directory editor `C-x d`

## Getting Help

The Help system is simple. Type `C-h` and follow the directions. If you are a first-time user, type `C-h t` for a **tutorial**. (This card assumes you know the tutorial.)

get rid of Help window `C-x 1`  
scroll Help window `ESC C-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`

Use `C-s` or `C-r` again to repeat the search in either direction.

exit incremental search `ESC`  
undo effect of last character `DEL`  
abort current search `C-g`

If Emacs is still searching, `C-g` will cancel the part of the search not done, otherwise it aborts the entire search.

## Motion

Cursor motion:

entity to move over	backward	forward
character	<code>C-b</code>	<code>C-f</code>
word	<code>M-b</code>	<code>M-f</code>
line	<code>C-p</code>	<code>C-n</code>
go to line beginning (or end)	<code>C-a</code>	<code>C-e</code>
sentence	<code>M-a</code>	<code>M-e</code>
paragraph	<code>M-[</code>	<code>M-]</code>
page	<code>C-x [</code>	<code>C-x ]</code>
sexp	<code>C-M-b</code>	<code>C-M-f</code>
function	<code>C-M-a</code>	<code>C-M-e</code>
go to buffer beginning (or end)	<code>M-&lt;</code>	<code>M-&gt;</code>

Screen motion:

scroll to next screen	<code>C-v</code>
scroll to previous screen	<code>M-v</code>
scroll left	<code>C-x &lt;</code>
scroll right	<code>C-x &gt;</code>

## Killing and Deleting

entity to kill	backward	forward
character (delete, not kill)	<code>DEL</code>	<code>C-d</code>
word	<code>M-DEL</code>	<code>M-d</code>
line (to end of)	<code>M-O C-k</code>	<code>C-k</code>
sentence	<code>C-x DEL</code>	<code>M-k</code>
sexp	<code>M-- C-M-k</code>	<code>C-M-k</code>
kill region	<code>C-w</code>	
kill to next occurrence of <i>char</i>	<code>M-z char</code>	
yank back last thing killed	<code>C-y</code>	
replace last yank with previous kill	<code>M-y</code>	

## 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	<code>SPC</code>
replace this one, don't move	<code>,</code>
skip to next without replacing	<code>DEL</code>
replace all remaining matches	<code>!</code>
back up to the previous match	<code>~</code>
exit query-replace	<code>ESC</code>
enter recursive edit ( <code>C-M-c</code> to exit)	<code>C-r</code>

## Multiple Windows

delete all other windows	<code>C-x 1</code>
delete this window	<code>C-x 0</code>
split window in 2 vertically	<code>C-x 2</code>
split window in 2 horizontally	<code>C-x 5</code>
scroll other window	<code>C-M-v</code>
switch cursor to another window	<code>C-x o</code>
shrink window shorter	<code>M-x shrink-window</code>
grow window taller	<code>C-x ^</code>
shrink window narrower	<code>C-x {</code>
grow window wider	<code>C-x }</code>
select a buffer in other window	<code>C-x 4 b</code>
find file in other window	<code>C-x 4 f</code>
compose mail in other window	<code>C-x 4 m</code>
run Dired in other window	<code>C-x 4 d</code>
find tag in other window	<code>C-x 4 .</code>

## Formatting

indent current line (mode-dependent)	<code>TAB</code>
indent region (mode-dependent)	<code>C-M-\</code>
indent sexp (mode-dependent)	<code>C-M-q</code>
indent region rigidly <i>arg</i> columns	<code>C-x TAB</code>
insert newline after point	<code>C-o</code>
move rest of line vertically down	<code>C-M-o</code>
delete blank lines around point	<code>C-x C-o</code>
delete all whitespace around point	<code>M-\</code>
put exactly one space at point	<code>M-SPC</code>
fill paragraph	<code>M-q</code>
fill region	<code>M-g</code>
set fill column	<code>C-x f</code>
set prefix each line starts with	<code>C-x .</code>

## Case Change

uppercase word	<code>M-u</code>
lowercase word	<code>M-l</code>
capitalize word	<code>M-c</code>
uppercase region	<code>C-x C-u</code>
lowercase region	<code>C-x C-l</code>
capitalize region	<code>M-x capitalize-region</code>

## The Minibuffer

The following keys are defined in the minibuffer.

complete as much as possible	<code>TAB</code>
complete up to one word	<code>SPC</code>
complete and execute	<code>RET</code>
show possible completions	<code>?</code>
abort command	<code>C-g</code>

Type `C-x ESC` to edit and repeat the last command that used the minibuffer. The following keys are then defined.

previous minibuffer command	<code>M-p</code>
next minibuffer command	<code>M-n</code>

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## 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 spell-region
check spelling of entire buffer	M-x spell-buffer

## Tags

find tag	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
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

## Rmail

scroll forward	SPC
scroll reverse	DEL
beginning of message	. (dot)
next non-deleted message	n
previous non-deleted message	p
next message	M-n
previous message	M-p
delete message	d
delete message and back up	C-d
undelete message	u
reply to message	r
forward message to someone	f
send mail	m
get newly arrived mail	g
quit Rmail	q
output message to another Rmail file	o
output message in Unix-mail style	C-o
show summary of headers	h

## Regular Expressions

The following have special meaning inside a regular expression.

any single character	.	(dot)
zero or more repeats	*	
one or more repeats	+	
zero or one repeat	?	
any character in set	[ ... ]	
any character not in set	[ ^ ... ]	
beginning of line	^	
end of line	\$	
quote a special character <i>c</i>	\c	
alternative ("or")		
grouping	( ... )	
<i>n</i> th group	\n	
beginning of buffer	\b	
end of buffer	\B	
word break	\w	
not beginning or end of word	\W	
beginning of word	\s	
end of word	\S	
any word-syntax character		
any non-word-syntax character		
character with syntax <i>c</i>		
character with syntax not <i>c</i>		

## Registers

copy region to register	C-x x
insert register contents	C-x g
save point in register	C-x /
move point to saved location	C-x j

## Info

enter the Info documentation reader	C-h 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 <i>n</i> th menu item by number (1-5)	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
list Info commands	?
quit Info	q
search nodes for regexp	s

## 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 <i>sexp</i> before point	C-x C-e
eval current defun	C-M-x
eval region	M-x eval-region
eval entire buffer	M-x eval-current-buffer
read and eval minibuffer	M-ESC
re-execute last minibuffer command	C-x ESC
read and eval Emacs Lisp file	M-x load-file
load from standard system directory	M-x load-library

## Simple Customization

Here are some examples of binding global keys in Emacs Lisp. Note that you cannot say "\M-#"; you must say "\e#".

```
(global-set-key "\C-cg" 'goto-line)
(global-set-key "\e\C-r" 'isearch-backward-regexp)
(global-set-key "\e#" 'query-replace-regexp)
```

An example of setting a variable in Emacs Lisp:

```
(setq backup-by-copying-when-linked t)
```

## Writing Commands

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

An example:

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

The argument to `interactive` is a string specifying how to get the arguments when the function is called interactively. Type `C-h f interactive` for more information.

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