

# GNU Emacs Reference Card

(for version 19)

## Starting Emacs

To enter GNU Emacs 19, just type its name: **emacs**

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

## Leaving Emacs

suspend Emacs (or iconify it under X)	<b>C-z</b>
exit Emacs permanently	<b>C-x C-c</b>

## Files

<b>read</b> a file into Emacs	<b>C-x C-f</b>
<b>save</b> a file back to disk	<b>C-x C-s</b>
save <b>all</b> files	<b>C-x s</b>
<b>insert</b> contents of another file into this buffer	<b>C-x i</b>
replace this file with the file you really want	<b>C-x C-v</b>
write buffer to a specified file	<b>C-x C-w</b>

## 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**.

remove Help window	<b>C-x 1</b>
scroll Help window	<b>ESC C-v</b>
apropos: show commands matching a string	<b>C-h a</b>
show the function a key runs	<b>C-h c</b>
describe a function	<b>C-h f</b>
get mode-specific information	<b>C-h m</b>

## Error Recovery

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

## Incremental Search

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

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	backward	forward
character	C-b	C-f
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	backward	forward
character (delete, not kill)	DEL	C-d
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 <b>region</b>		C-w
copy region to kill ring		M-w
kill through next occurrence of <i>char</i>		M-z <i>char</i>
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 <i>arg</i> <b>words</b> away	M-@
mark <b>paragraph</b>	M-h
mark <b>page</b>	C-x C-p
mark <b>sexp</b>	C-M-@
mark <b>function</b>	C-M-h
mark entire <b>buffer</b>	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

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

## Multiple Windows

delete all other windows	C-x 1
delete this window	C-x 0
split window in two vertically	C-x 2
split window in two horizontally	C-x 3
scroll other window	C-M-v
switch cursor to another window	C-x o
shrink window shorter	M-x shrink-window
grow window taller	C-x ^
shrink window narrower	C-x {
grow window wider	C-x }
select buffer in other window	C-x 4 b
display buffer in other window	C-x 4 C-o
find file in other window	C-x 4 f
find file read-only in other window	C-x 4 r
run Dired in other window	C-x 4 d
find tag in other window	C-x 4 .

## Formatting

indent current <b>line</b> (mode-dependent)	TAB
indent <b>region</b> (mode-dependent)	C-M-\
indent <b>sexp</b> (mode-dependent)	C-M-q
indent region rigidly <i>arg</i> 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 <i>arg</i> , <i>next</i> )	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 .

## 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
capitalize region	M-x capitalize-region

## 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 next later minibuffer input	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. The following keys are then defined.

previous minibuffer command	M-p
next minibuffer command	M-n

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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 <b>characters</b>	C-t
transpose <b>words</b>	M-t
transpose <b>lines</b>	C-x C-t
transpose <b>sexps</b>	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
regex 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 <b>*shell*</b>	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	M-x clear-rectangle
prefix each line with a string	M-x string-rectangle

## 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	<code>.</code> (dot)
zero or more repeats	<code>*</code>
one or more repeats	<code>+</code>
zero or one repeat	<code>?</code>
any character in the set	<code>[ ... ]</code>
any character not in the set	<code>[^ ... ]</code>
beginning of line	<code>^</code>
end of line	<code>\$</code>
quote a special character <i>c</i>	<code>\c</code>
alternative (“or”)	<code> </code>
grouping	<code>( ... )</code>
<i>n</i> th group	<code>\n</code>
beginning of buffer	<code>^</code>
end of buffer	<code>'</code>
word break	<code>\b</code>
not beginning or end of word	<code>\B</code>
beginning of word	<code>&lt;</code>
end of word	<code>&gt;</code>
any word-syntax character	<code>\w</code>
any non-word-syntax character	<code>\W</code>
character with syntax <i>c</i>	<code>\sc</code>
character with syntax not <i>c</i>	<code>\Sc</code>

## Registers

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

## Info

enter the Info documentation reader	<code>C-h i</code>
Moving within a node:	
scroll forward	<code>SPC</code>
scroll reverse	<code>DEL</code>
beginning of node	<code>.</code> (dot)
Moving between nodes:	
<b>next</b> node	<code>n</code>
<b>previous</b> node	<code>p</code>
move <b>up</b>	<code>u</code>
select menu item by name	<code>m</code>
select <i>n</i> th menu item by number (1–5)	<code>n</code>
follow cross reference (return with 1)	<code>f</code>
return to last node you saw	<code>l</code>
return to directory node	<code>d</code>
go to any node by name	<code>g</code>
Other:	
run Info <b>tutorial</b>	<code>h</code>
list Info commands	<code>?</code>
<b>quit</b> Info	<code>q</code>
search nodes for regexp	<code>s</code>

## Keyboard Macros

<b>start</b> defining a keyboard macro	C-x (
<b>end</b> keyboard macro definition	C-x )
<b>execute</b> 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 <b>sexp</b> before point	C-x C-e
eval current <b>defun</b>	C-M-x
eval <b>region</b>	M-x eval-region
eval entire <b>buffer</b>	M-x eval-current-buffer
read and eval minibuffer	M-ESC
re-execute last minibuffer command	C-x ESC 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 "\C-x\C-k" 'kill-region)
(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-window (line)
  "Reposition line point is on to top of window.
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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