

# 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) **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**

## 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 **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**  
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		backward	forward
character	<b>C-b</b>	<b>C-b</b>	<b>C-f</b>
word	<b>M-b</b>	<b>M-b</b>	<b>M-f</b>
line	<b>C-p</b>	<b>C-p</b>	<b>C-n</b>
go to line beginning (or end)	<b>C-a</b>	<b>C-e</b>	
sentence	<b>M-a</b>	<b>M-e</b>	
paragraph	<b>M-{</b>	<b>M-}</b>	
page	<b>C-x [</b>	<b>C-x ]</b>	
sexp	<b>C-M-b</b>	<b>C-M-f</b>	
function	<b>C-M-a</b>	<b>C-M-e</b>	
go to buffer beginning (or end)	<b>M-&lt;</b>	<b>M-&gt;</b>	
scroll to next screen		<b>C-v</b>	
scroll to previous screen		<b>M-v</b>	
scroll left		<b>C-x &lt;</b>	
scroll right		<b>C-x &gt;</b>	
scroll current line to center of screen		<b>C-u C-l</b>	

## Killing and Deleting

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

## 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 using regular expressions **M-%**  
**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 **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 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 .**

## 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**  
regexp search backward through history **M-r**  
regexp 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
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	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	.	(dot)
zero or more repeats	*	
one or more repeats	+	
zero or one repeat	?	
any character in the set	[ ... ]	
any character not in the 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	\'	
end of buffer	\>	
word break	\b	
not beginning or end of word	\B	
beginning of word	\<	
end of word	\>	
any word-syntax character	\w	
any non-word-syntax character	\W	
character with syntax <i>c</i>	\sc	
character with syntax not <i>c</i>	\Sc	

## 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

## 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 <i>defun</i>	C-M-x
eval <i>region</i>	M-x eval-region
eval entire <i>buffer</i>	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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 for GNU Emacs version 19 on Unix systems

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