

# GNU Emacs Reference Card

(for version 21)

## 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)	<code>C-z</code>
exit Emacs permanently	<code>C-x C-c</code>

## Files

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

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

## Error Recovery

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

## Incremental Search

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

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	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 <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 .
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.

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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 <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	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 <i>c</i>	\	<i>c</i>
alternative (“or”)		
grouping	(	... )
same text as <i>n</i> th group	\	<i>n</i>
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 <i>c</i>
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:

<b>next</b> node	n
<b>previous</b> node	p
move <b>up</b>	u
select menu item by name	m
select <i>n</i> th menu item by number (1–9)	<i>n</i>
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 <b>tutorial</b>	h
<b>quit</b> 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

<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
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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