

# 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) 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	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-0 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 <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 *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-regex  
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  
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. Type F10 to activate the menu bar using

# 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 \  
 alternative ("or") \|  
 grouping \(\ ... \)  
 same text as *n*th group \|n  
 at word break \|b  
 not at word break \|B

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

## 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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 v2.2 for GNU Emacs version 21, 1997  
 designed by Stephen Gildea

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