

# 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.

## 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`  
**M-x shrink-window**  
shrink window shorter `C-x ~`  
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`

## 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 region `C-w`  
copy region to kill ring `M-w`  
kill through next occurrence of *char* `M-z char`  
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 using regular expressions `M-%`  
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`

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delete blank lines around point `C-x C-o`  
join line with previous (with arg, next) `M-~`  
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capitalize word `M-c`  
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## Buffers

select another buffer  
list all buffers  
kill a buffer

C-x b  
C-x C-b  
C-x k

## Transposing

transpose characters  
transpose words  
transpose lines  
transpose sexps

C-t  
M-t  
C-x C-t  
C-M-t

## Spelling Check

check spelling of current word  
check spelling of all words in region  
check spelling of entire buffer

M-\$  
M-x ispell-region  
M-x ispell-buffer

## Tags

find a tag (a definition)  
find next occurrence of tag  
specify a new tags file

M-  
C-u M-

M-x visit-tags-table  
regexp search on all files in tags table  
run query-replace on all the files  
continue last tags search or query-replace

M-x tags-search  
M-x tags-query-replace  
M-

## Shells

execute a shell command  
run a shell command on the region  
filter region through a shell command  
start a shell in window \*shell\*

M-!  
M-|  
C-u M-|  
M-x shell

## Rectangles

copy rectangle to register  
kill rectangle  
yank rectangle  
open rectangle, shifting text right  
blank out rectangle  
prefix each line with a string

C-x r r  
C-x r k  
C-x r y  
C-x r o  
M-x clear-rectangle  
M-x string-rectangle

## Abbrevs

add global abbrev  
add mode-local abbrev  
add global expansion for this abbrev  
add mode-local expansion for this abbrev  
explicitly expand abbrev  
expand previous word dynamically

C-x a g  
C-x a l  
C-x a i g  
C-x a i l  
C-x a e  
M-/

## Regular Expressions

any single character except a newline  
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 *c*  
alternative ("or")  
grouping  
*n*th group  
beginning of buffer  
end of buffer  
word break  
not beginning or end of word  
beginning of word  
end of word  
any word-syntax character  
any non-word-syntax character  
character with syntax *c*  
character with syntax not *c*

. (dot)  
\*  
+  
?  
[ ... ]  
[ ^ ... ]  
\$  
\c  
\\  
\\( ... \\)  
\\n  
\\c  
\\>  
\\b  
\\B  
\\<  
\\>  
\\w  
\\W  
\\sc  
\\Sc

## Registers

save region in register  
insert register contents into buffer  
save value of point in register  
jump to point saved in register

C-x r s  
C-x r i  
C-x r SPC  
C-x r j

## Info

enter the Info documentation reader  
Moving within a node:

C-h i  
SPC  
DEL  
. (dot)

scroll forward  
scroll reverse  
beginning of node  
Moving between nodes:

next node  
previous node  
move up  
select menu item by name  
select *n*th menu item by number (1-5)  
follow cross reference (return with 1)  
return to last node you saw  
return to directory node  
go to any node by name

n  
p  
u  
m  
n  
f  
l  
d  
g

Other:

run Info tutorial  
list Info commands  
quit Info  
search nodes for regexp

h  
?  
q  
s

## Keyboard Macros

start defining a keyboard macro  
end keyboard macro definition  
execute last-defined keyboard macro  
append to last keyboard macro  
name last keyboard macro  
insert Lisp definition in buffer

C-x (   
C-x )  
C-x e  
C-u C-x (   
M-x name-last-kbd-macro  
M-x insert-kbd-macro

## Commands Dealing with Emacs Lisp

eval sexp before point  
eval current defun  
eval region  
eval entire buffer  
read and eval minibuffer  
re-execute last minibuffer command  
read and eval Emacs Lisp file  
load from standard system directory

C-x C-e  
C-M-x  
M-x eval-region  
M-x eval-current-buffer  
M-ESC  
C-x ESC ESC  
M-x load-file  
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.
```

```
  (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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designed by Stephen Gildea, May 1993 v2.0  
for GNU Emacs version 19 on Unix systems

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