# 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 *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 | `M-%` |
| using regular expressions | `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 | `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* | `\`*c* |
| alternative ("or") | `\\|` |
| grouping | `\( ... \)` |
| same text as *n*th group | `\`*n* |
| 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 *c* | `\s`*c* | `\S`*c* |

## 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 `l`) | `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.

Copyright © 1997 Free Software Foundation, Inc.
v2.2 for GNU Emacs version 21, 1997
designed by Stephen Gildea

Permission is granted to make and distribute copies of this card provided the copyright notice and this permission notice are preserved on all copies.

For copies of the GNU Emacs manual, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA