

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

| | |
|---|----------------------|
| read a file into Emacs | <code>C-x C-f</code> |
| save a file back to disk | <code>C-x C-s</code> |
| save all files | <code>C-x s</code> |
| insert 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

| | |
|---|--|
| abort partially typed or executing command | <code>C-g</code> |
| recover a file lost by a system crash | <code>M-x recover-file</code> |
| undo 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.

| 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 <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> 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 |

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 <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> , 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 |
| 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.

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 |
| regex 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-/ |

| | | |
|---|---------|-------|
| 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> | \c | |
| alternative (“or”) | | |
| grouping | (...) | |
| same text as <i>n</i> 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 <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 <i>n</i> 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 |

| | |
|--------------------------------------|-----------|
| 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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