



## GNU Emacs Quick Reference Guide for CS61B

Bullets (●) mark a suggested starting set of commands. Daggers (†) denote key bindings that are not standard in GNU Emacs. *ARG* denotes the prefix numeric argument (entered with *C-u* or *M-digit*).

### Cursor motion.

<i>C-f</i>	Forward character.●
<i>M-f</i>	Forward word.●
<i>C-e</i>	Forward to end of line.●
<i>C-b</i>	Backward character.●
<i>M-b</i>	Backward word.●
<i>C-a</i>	Backward to start of line.●
<i>M-e</i>	Forward sentence.
<i>M-[</i>	Forward paragraph.
<i>M-a</i>	Backward sentence.
<i>M-]</i>	Backward paragraph.
<i>C-n</i>	Next line.●
<i>C-p</i>	Previous line.●
<i>M-&lt;</i>	Beginning of buffer.●
<i>M-&gt;</i>	End of buffer.●
<i>C-v</i>	Scroll text up one screen (or <i>ARG</i> lines).●
<i>M-v</i>	Scroll text down (or <i>ARG</i> lines).●
<i>M-g</i>	Go to line number <i>ARG</i> .†
<i>M-x what-line</i>	Display line number.
<i>C-M-v</i>	Scroll other window up one screen (or <i>ARG</i> lines).

### Marking regions of text

<i>C-@</i>	Set mark at point.●
<i>C-x C-x</i>	Exchange mark and point.●
<i>C-SPC</i>	Same as <i>C-@</i> .
<i>M-@</i>	Set mark after end of next word.
<i>M-h</i>	Set mark and point around current paragraph.
<i>C-x h</i>	Set mark and point around current buffer.

### Deletion and yanking

<i>DEL</i>	Delete character before cursor.●
<i>M-DEL</i>	Delete word before cursor and add to kill buffer.●

<i>C-d</i>	Delete character at cursor.●
<i>M-d</i>	Delete word at and after cursor and add to kill buffer.●
<i>C-k</i>	Delete to end of line and add to kill buffer.●
<i>M-W</i>	Delete current region, and add to kill buffer.†●
<i>M-\</i>	Delete surrounding blanks and tabs.
<i>M-SPC</i>	Delete all but one surrounding blank.
<i>C-x C-o</i>	Delete all but one surrounding blank line.
<i>C-M-w</i>	Cause next command, if a kill, to append to previous kill buffer, instead of new one.

<i>C-y</i>	Insert text from kill buffer at point.●
<i>C-u C-y</i>	Insert text from kill buffer at point without moving point.
<i>M-y</i>	Replace preceding <i>C-y</i> text with next most recent kill buffer.
<i>M-w</i>	Copy region to kill buffer, no deletion.

### Indentation

<i>TAB</i>	Indent according to mode.●
<i>LF</i>	Same as <i>RET TAB</i> .
<i>M-;</i>	Indent and start comment.
<i>M-LF</i>	Continue comment on next line.
<i>C-x TAB</i>	Indent region rigidly by <i>ARG</i> .
<i>C-M-\</i>	Indent region according to mode.●

### Search

<i>C-s</i>	Search forward.●
<i>C-s C-s</i>	Same as <i>C-s</i> with last string.●
<i>C-r</i>	Search backward.●
<i>C-r C-r</i>	Same as <i>C-r</i> with last string.●
<i>C-u C-s</i>	Search forward for regular expression.
<i>M-x occur</i>	Display lines matching a regular expression.
<i>M-x grep</i>	Display results of UNIX <i>grep</i> utility.
<i>M-x count-matches</i>	

The following subcommands are valid during a search.

<i>RET</i>	End search.●
<i>DEL</i>	Undo effect of last search character typed.●
<i>C-g</i>	Abort search.●
<i>C-s</i>	Search for next match forward.●
<i>C-r</i>	Search for next match backward.●
<i>C-q</i>	Quote next character.
<i>C-w</i>	Extend search string with next word.
<i>LFD</i>	Extend search string with rest of line.

## Replacement

M-q	Query replace.●†
M-Q	Query replace regular expression.†
M-x delete-matching-lines	
M-x delete-non-matching-lines	

During a query-replacement, the following are valid responses to prompts.

SPC	Make replacement and go to next.●
DEL	Skip replacement and go to next.●
RET	End replacement.●
!	Replace all remaining instances without asking.●
C-r	Enter recursive edit; return with C-M-c.

## Regular expressions

.	Match any character.●
^	Match at start of line.●
\$	Match at end of line.●
[...]	Match any character in the '...'.●
[^...]	Match any character except those in '...'.●
*	Match 0 or more of pattern to left.●
+	Match 1 or more of pattern to left.
?	Match 0 or 1 of pattern to left.
\c	Quotes <i>c</i> , except for the following.
\b	Match at beginning or end of word.
\B	Match except at beginning or end of word.
	Match either pattern to left or right.
\(...\)	Grouping.
\n	Match copy of whatever matched <i>n</i> <sup>th</sup> group.

## Miscellaneous editing

C-o	Insert newline after cursor.
C-t	Transpose characters.
M-t	Transpose words.
C-x C-t	Transpose lines.
M-u	Convert whole word to upper case.
M-l	Convert whole word to lower case.
M-c	Capitalize word.

## Files

C-x C-f	Find file; load if needed.●
C-x 4 C-f	Find file in other window.●
C-x C-s	Save file.●
C-x C-w	Write to explicitly-named file.
C-x i	Insert file at cursor.
M-x recover-file	Recover file after disaster from auto-save file.
M-x revert-buffer	Throw away changes to buffer and restore from file.

## Buffers and windows

C-x o	Put cursor in other window.●
C-x 1	Grow current window to full screen.●
C-x 2	Split current window vertically.●
C-x b	Put named buffer in window.●
C-x 0	Remove current window.
C-x 3	Split current window horizontally.
C-x C-b	List all buffers.
C-x k	Delete buffer.

## Shells

M-x shell	Run UNIX shell in a buffer.●
M-	Execute single shell command on region. With <i>ARG</i> , replaces region.

Commands active in shell buffers:

RET	Send current line to shell.●
TAB	Complete preceding file name.●
C-c C-c	Send interrupt to shell.●
C-c C-u	Erase current input line.●
C-c C-z	Send stop signal to shell.●
C-c C-d	Send EOF to shell.

## Compilation, debugging, and tags

M-x compile	Execute command (by default, <i>make</i> ) asynchronously.●
C-x ‘	Position to next error or next line found by M-x <i>grep</i> command.●
M-x kill-compiler	Stop active <i>compile</i> .
M-x visit-tags-table	Specify file containing tags produced by <i>etags</i> .●
M-.	Display source for given tag.●

**C-u M-.** Find next alternate definition for last tag.●

**C-x 4 .** Display source for tag in other window.

**M-x tags-search**

**M-x tags-query-replace** Look for pattern in all files named in tags table.

**M-x tags-apropos** Display matching tags.

**M-x gdb** Run GNU debugger on file.

**M-x gjdb** Run Java debugger on class.

Commands valid in **gdb** and **gjdb** modes.

**C-c C-s** Step.●

**C-c C-n** Next.●

**C-c <** Up stack.●

**C-c >** Down stack.●

**C-c C-r** Finish.●

**C-x SPC** In any source file, sets a break point.●

**C-c C-i** Stepi (gdb only).

## Mouse commands

Left, middle, and right buttons are **LB**, **MB**, and **RB**.

**LB** Put cursor at mouse. Dragging marks region.

**MB** Paste text from window-system cut buffer at mouse.

**RB** Extend region to pointer and copy into cut and kill buffers. Clicking twice deletes region.

**C-LB** Select a buffer.

## Help and documentation

**M-x manual-entry** UNIX man page for given topic.

**C-h a** Look up names of matching commands.●

**C-h b** Display key bindings.●

**C-h f** Help for **M-x** function.●

**C-h C-h** Help for **C-h**.●

**C-h i** Run info browser.●

**C-h k** Help for key.●

**C-h m** Help for current mode.

**C-h t** Tutorial.

**C-h w** Key containing function.

Inside an **\*info\*** buffer (result of **C-h i**), the following are defined.

**m** Select menu item.●

**l** Go to last-visited node.●

**?** Get help for browser.●

**u** Go to node's parent.●

**n** Go to next node in sequence.●

**q** Leave browser.●

**.** Go to top of node.

**d** Go to top-level node.