# $\begin{array}{c} {\rm GNU~Emacs} \\ {\rm Quick~Reference~Guide} \\ {\rm for~CS61B} \end{array}$

Bullets ( $\bullet$ ) mark a suggested starting set of commands. Daggers ( $\dagger$ ) 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.

C-f	Forward character.•
M-f	Forward word.
С-е	Forward to end of line.
C-b	Backward character. ●
M-b	Backward word. ●
C-a	Backward to start of line. ●
М-е	Forward sentence.
M-[	Forward paragraph.
M-a	Backward sentence.
M-]	Backward paragraph.
C-n	Next line.   •
C-p	Previous line.
M-<	Beginning of buffer.
M->	End of buffer.
C-v	Scroll text up one screen (or $ARG$ lines).•
M-v	Scroll text down (or $ARG$ lines).•
M-g	Go to line number $ARG.\dagger$
M-x what-li	ne Display line number.
C-M-v	Scroll other window up one screen (or $ARG$
	lines).

# Marking regions of text

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

## Deletion and yanking

DEL	Delete character before cursor.  ●
M-DEL	Delete word before cursor and add to kill
	buffer.•
C-d	Delete character at cursor. ●
M-d	Delete word at and after cursor and add to
	kill buffer.   •
C-k	Delete to end of line and add to kill buffer.
M-W	Delete current region, and add to kill
	buffer.†•

M-SPC	Delete all but one surrounding blank.
С-х С-о	Delete all but one surrounding blank line.
C-M-w	Cause next command, if a kill, to append to
	previous kill buffer, instead of new one.
O	In sort to the form hill buffer at a sint a
С-у	Insert text from kill buffer at point.
С-и С-у	Insert text from kill buffer at point without
	moving point.
М-у	Replace preceding $C-y$ text with next most
	recent kill buffer.
M-w	Copy region to kill buffer, no deletion.

Delete surrounding blanks and tabs.

#### Indentation

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

#### Search

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

The following subcommands are valid during a search.

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

# Replacement

ill		Query replace.•† Query replace regular expression.† matching-lines
to	M-x delete-	non-matching-lines
• ill	During a quesponses to pr	nery-replacement, the following are valid recompts.
	SPC	Make replacement and go to next.●

DEL Skip replacement and go to next.

RET End replacement.

! Replace all remaining instances without asking.

•

Enter recursive edit; return with C-M-c.

#### Regular expressions

C-r

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. Quotes c, except for the following. Match at beginning or end of word.  $\backslash B$ Match except at beginning or end of word.  $\backslash |$ Match either pattern to left or right. \(...\) Grouping. Match copy of whatever matched  $n^{th}$  group.  $\backslash n$ 

#### 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_3r	rourert-	buffer Throw away changes to buffer and r

M-x revert-buffer Throw away changes to buffer and restore from file.

#### Buffers and windows

C-x	0	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 $ARG$ , 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	Exe	cute	command	(by	default,	make
		asynchr	onous	sly.●			
C-x	(	Position	n to r	next error o	r nex	t line four	nd by
		M-x gr	ер сог	$\operatorname{mmand}. ullet$			
M-x	kill-co	mpiler	Stop	active com	pile.		

M-x	visit-tags-table	Specify	file	containing	tags	pro-
	duced by et	ags.•				
M	Display sou	rce for gi	iven	tag. ullet		

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-c C-r Step.

C-c C-r Finish.

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

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

### Help and documentation

M-x	manual-	entry UNIX man page for given topic.
C-h	a	Look up names of matching commands. $\bullet$
C-h	b	Display key bindings.●
C-h	f	Help for M-x function. ●
C-h	C-h	Help for C-h.●

 $\begin{array}{lll} {\tt C-h~i} & & {\tt Run~info~browser.} \bullet \\ {\tt C-h~k} & & {\tt Help~for~key.} \bullet \end{array}$ 

C-h m Help for current mode.

C-h t Tutorial.

C-h w Key containing function.

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

m Select menu item.

Go to last-visited node.

Get help for browser.

Go to node's parent.

The select menu item.

Go to last-visited node.

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.

#### 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.