

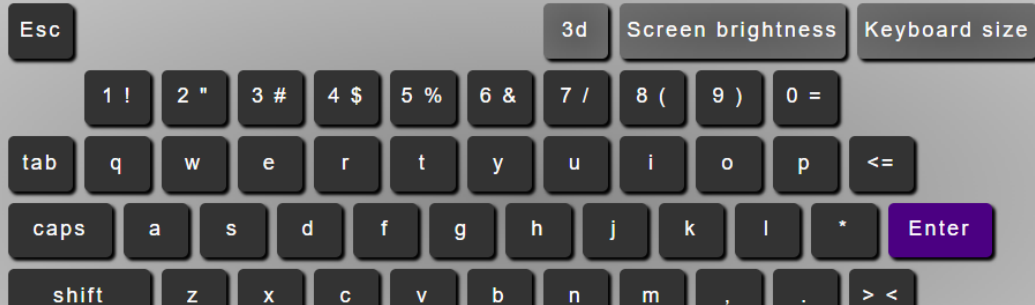
Part 1:

## Two modes, insert and normal

mode: NORMAL

7, 41

- 1 Vim has two basic modes. One is **insert** mode, in which you write text as if in normal text editor.
- 2 Another is **normal** mode which provides you efficient ways to navigate and manipulate text.
- 3 At any time, you can see which mode you are in on the status bar which is located at the top of the editor.
- 4 To change between modes, use **Esc** for normal mode and **i** for insert mode
- 5 Let's try it out! First, change to insert mode.
- 6 Good, now you're in insert mode. Write something and change back to normal mode.
- 7 Good. Let's move on to another section.



## Basic movement: h, j, k, and l

mode: NORMAL

3, 16

```
1 In contrast to regular text editor, you use keys h, j,  
k, and l instead of arrow keys to move the cursor.  
2 Let's see how it works in practice!  
3 Let's move on. █
```



## Word movement: w, e, b

mode: NORMAL

3, 22

- 1 To navigate the text in terms of words, you can use keys **w**, **b**, and **e** (also W, B, E in real Vim).
- 2 **w** moves to the start of next word; **e** moves to the end of the word; and **b** moves to beginning of the word.
- 3 Word! Let's move on.

Esc

3d

Screen brightness

Keyboard size

1 !

2 "

3 #

4 \$

5 %

6 &

7 /

8 (

9 )

0 =

tab

q

w

e

r

t

y

u

i

o

p

<=

caps

a

s

d

f

g

h

j

k

l

\*

Enter

shift

z

x

c

v

b

n

m

,

.

><

ctrl

alt

Space

## Insert text repeatedly, e.g. 3iYes

mode: NORMAL

5, 47

- 1 You can insert text multiple times.
- 2 For example, an underline of a header might consist of 30 `-`s.
- 3 -----
- 4 With `30i- Esc`, there's no need to press `-` 30 times.
- 5 Let's try it out: insert `go` three times.gogogo



## Find a character, f and F

mode: NORMAL

3, 12

- 1 To find and move to the next (or previous) occurrence of a character, use `f` and `F`, e.g. `fo` finds next o.
- 2 You can combine `f` with a number. For example, you can find 3rd occurrence of 'q' with `3fq`, que?
- 3 F-f-f-ast!



## Find word under cursor, \* and #

mode: NORMAL

2, 31

- 1 Find the next occurrence of the word under cursor with **\***, and the previous with **#**.
- 2 Nothing new under the cursor. █

Esc

3d

Screen brightness

Keyboard size

1 !

2 "

3 #

4 \$

5 %

6 &

7 /

8 (

9 )

0 =

tab

q

w

e

r

t

y

u

i

o

p

<=

caps

a

s

d

f

g

h

j

k

l

\*

Enter

shift

z

x

c

v

b

n

m

,

.

><

ctrl

alt

Space

## Goto line, g and G

mode: NORMAL

3,22

- 1 `gg` takes you to the beginning of the file; `G` to the end.
- 2 To jump directly to a specific line, give its `line number` along with `G`.
- 3 `gg! G` majorly rocks. █
- 4 Now go to the beginning of this screen with `gg` and then back to end with `G`.
- 5 Go to line 2 with `2G`.

Esc

3d

Screen brightness

Keyboard size

1 !

2 "

3 #

4 \$

5 %

6 &

7 /

8 (

9 )

0 =

tab

q

w

e

r

t

y

u

i

o

p

<=

caps

a

s

d

f

g

h

j

k

l

\*

Enter

shift

z

x

c

v

b

n

m

,

.

><

ctrl

alt

Space

## Part 2:

```
Linux lamp 4.19.0-8-amd64 #1 SMP Debian 4.19.98-1+deb10u1 (2020-04-27) x86_64
Last login: Thu Dec 15 18:51:18 2022 from 192.168.56.1
omar@lamp ~$ cat
hello
hello
omar@lamp ~$ cat > list1
pear
banana
apple
omar@lamp ~$ cat list1
pear
banana
apple
omar@lamp ~$ cat > list2
orange
plum
mango
omar@lamp ~$ cat >> list1
peach
grape
omar@lamp ~$ cat list1
pear
banana
apple
peach
grape
omar@lamp ~$ cat list1 list2 > biglist
omar@lamp ~$ cat biglist
pear
banana
apple
peach
grape
orange
plum
mango
omar@lamp ~$
```



```
omar@lamp ~$ sort < biglist
apple
banana
grape
mango
orange
peach
pear
plum
omar@lamp ~$ sort < biglist > slist
omar@lamp ~$ cat slis
cat: slis: No such file or directory
omar@lamp ~$ cat slist
apple
banana
grape
mango
orange
peach
pear
plum
omar@lamp ~$ who
root      tty1          Dec 15 16:24
omar      pts/0         Dec 15 19:07 (192.168.56.1)
omar      pts/1         Dec 15 18:47 (192.168.56.1)
omar@lamp ~$ who > names.txt
omar@lamp ~$ sort < names.txt
omar      pts/0         Dec 15 19:07 (192.168.56.1)
omar      pts/1         Dec 15 18:47 (192.168.56.1)
root      tty1          Dec 15 16:24
omar@lamp ~$ who | sort
omar      pts/0         Dec 15 19:07 (192.168.56.1)
omar      pts/1         Dec 15 18:47 (192.168.56.1)
root      tty1          Dec 15 16:24
omar@lamp ~$ who | wc -l
wc: invalid option -- 'l'
Try 'wc --help' for more information.
omar@lamp ~$ who | wc -l
3
omar@lamp ~$
```

```

root@lamp ~/Lab2# work
-bash: ./work: Permission denied
root@lamp ~/Lab2# ls -l
total 4
-rw-r--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# chmod u+x work
root@lamp ~/Lab2# ls -l
total 4
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# work
work
Hello
total 4
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# ls # display the names of files in the current directory
work
root@lamp ~/Lab2# sleep 1 # suspend execution for one second
root@lamp ~/Lab2# printf "Hello\n" # display text
Hello
root@lamp ~/Lab2# sleep 2 # suspend execution for two seconds
root@lamp ~/Lab2# ls -l # display file information in long format. (That's a small L, not a one.)
ls # display the names of files in the current directory
total 4
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# sleep 1 # suspend execution for one second
root@lamp ~/Lab2# printf "Hello\n" # display text
Hello
root@lamp ~/Lab2# sleep 2 # suspend execution for two seconds
root@lamp ~/Lab2# ls -l # display file information in long format. (That's a small L, not a one.)
total 4
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2#
root@lamp ~/Lab2# work > result
root@lamp ~/Lab2# cat result
result
work
Hello
total 8
-rw-r--r-- 1 root root 18 Dec 25 16:56 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# rm result
root@lamp ~/Lab2# work > result
root@lamp ~/Lab2# work >> result
root@lamp ~/Lab2# cat result
result
work
Hello
total 8

```

```
root@lamp ~/Lab2# cat result
result
work
Hello
total 8
-rw-r--r-- 1 root root 18 Dec 25 16:56 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# rm result
root@lamp ~/Lab2# work > result
root@lamp ~/Lab2# work >> result
root@lamp ~/Lab2# cat result
result
work
Hello
total 8
-rw-r--r-- 1 root root 18 Dec 25 16:56 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
result
work
Hello
total 8
-rw-r--r-- 1 root root 136 Dec 25 16:57 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
root@lamp ~/Lab2# █
```

```
root@lamp ~/Lab2# man ls
```

```
LS(1)
```

```
User Commands
```

```
LS(1)
```

#### NAME

ls - list directory contents

#### SYNOPSIS

ls [OPTION]... [FILE]...

#### DESCRIPTION

List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.

-a, --all  
do not ignore entries starting with .

-A, --almost-all  
do not list implied . and ..

--author

```
root@lamp ~/Lab2#
```

```
root@lamp ~/Lab2# man sleep
```

```
SLEEP(1)
```

```
User Commands
```

```
SLEEP(1)
```

#### NAME

sleep - delay for a specified amount of time

#### SYNOPSIS

sleep NUMBER[SUFFIX]...  
sleep OPTION

#### DESCRIPTION

Pause for NUMBER seconds. SUFFIX may be 's' for seconds (the default), 'm' for minutes, 'h' for hours or 'd' for days. Unlike most implementations that require NUMBER be an integer, here NUMBER may be an arbitrary floating point number. Given two or more arguments, pause for the amount of time specified by the sum of their values.

--help display this help and exit

--version  
output version information and exit

#### AUTHOR

Written by Jim Meyering and Paul Eggert.

```

root@lamp ~/Lab2# man -k file > info
root@lamp ~/Lab2# work &
[1] 18418
root@lamp ~/Lab2# info result work
Hello
worktotal 68
-rw-r--r-- 1 root root 58674 Dec 25 17:01 info
-rw-r--r-- 1 root root 236 Dec 25 16:57 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
^C
[1]+ Done work
root@lamp ~/Lab2# work &
[1] 18423
root@lamp ~/Lab2# info result work
work &
[2] 18426
root@lamp ~/Lab2# info result work
Hello
Hello
total 68
-rw-r--r-- 1 root root 58674 Dec 25 17:01 info
-rw-r--r-- 1 root root 236 Dec 25 16:57 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
total 68
-rw-r--r-- 1 root root 58674 Dec 25 17:01 info
-rw-r--r-- 1 root root 236 Dec 25 16:57 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
work
info result work

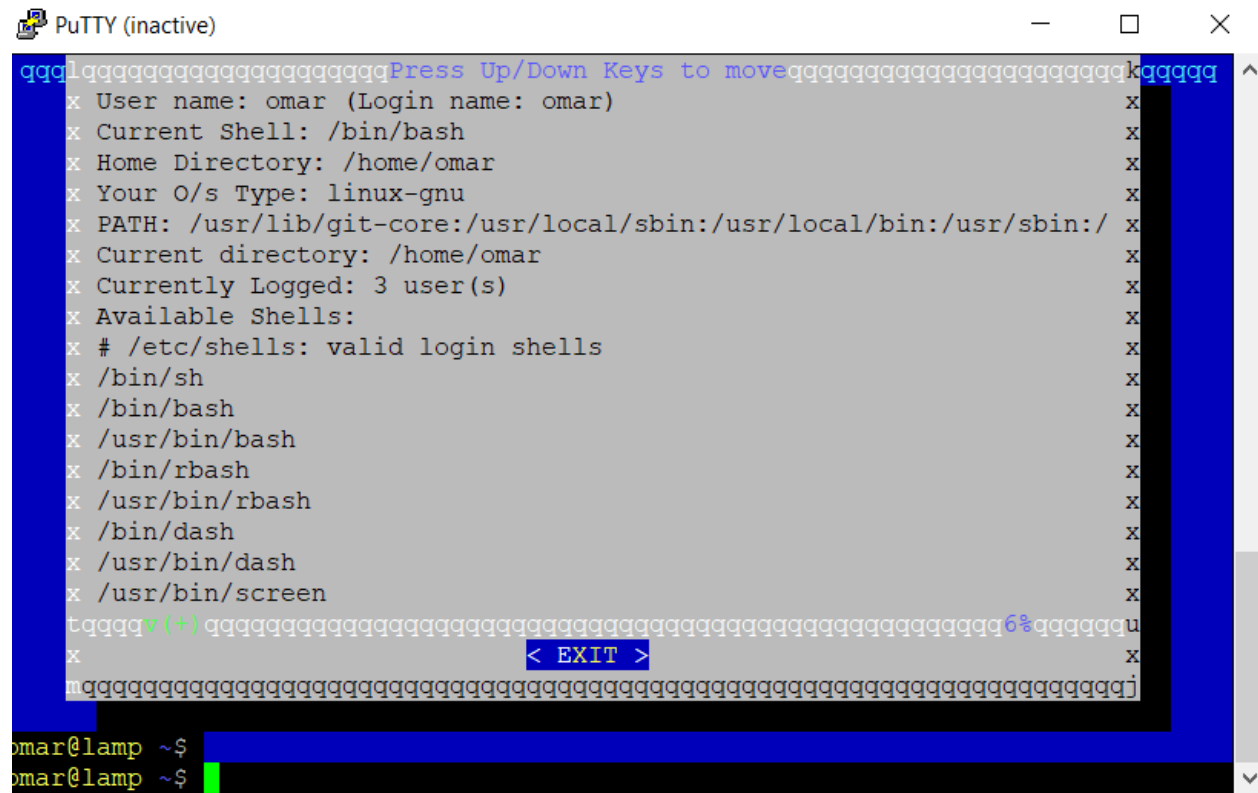
Hello

total 68
-rw-r--r-- 1 root root 58674 Dec 25 17:01 info
-rw-r--r-- 1 root root 236 Dec 25 16:57 result
-rwxr--r-- 1 root root 255 Dec 26 2022 work
^C[1]- Done work
[2]+ Done work
root@lamp ~/Lab2# work &
[1] 18438
root@lamp ~/Lab2# info result work
ps
  PID TTY          TIME CMD
18295 pts/0    00:00:00 bash
18438 pts/0    00:00:00 bash
18440 pts/0    00:00:00 sleep
18441 pts/0    00:00:00 ps

root@lamp ~/Lab2# work > out &
[1] 18451
root@lamp ~/Lab2# ps
  PID TTY          TIME CMD
18295 pts/0    00:00:00 bash
18451 pts/0    00:00:00 bash
18454 pts/0    00:00:00 sleep
18455 pts/0    00:00:00 ps
root@lamp ~/Lab2# █

```

### Part 3:



The screenshot shows a PuTTY terminal window titled "PuTTY (inactive)". The terminal displays a login sequence for user "omar". The prompt "Press Up/Down Keys to move" is visible at the top. The user "omar" has logged in successfully, and the terminal shows the following information:

```
x User name: omar (Login name: omar)
x Current Shell: /bin/bash
x Home Directory: /home/omar
x Your O/s Type: linux-gnu
x PATH: /usr/lib/git-core:/usr/local/sbin:/usr/local/bin:/usr/sbin:/
x Current directory: /home/omar
x Currently Logged: 3 user(s)
x Available Shells:
x # /etc/shells: valid login shells
x /bin/sh
x /bin/bash
x /usr/bin/bash
x /bin/rbash
x /usr/bin/rbash
x /bin/dash
x /usr/bin/dash
x /usr/bin/screen
```

The terminal also shows a prompt "tqqqqv(+)" and a prompt "6%". A blue box with the text "< EXIT >" is visible. The terminal window has a blue background and a black border. The user "omar" is logged in as "omar@lamp ~\$".