

PRACTICE QUESTIONS
CYCLE 1
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Question 1: Display your current directory.

Output:

```
rwthik@Zeus ~  
» pwd  
/home/rwthik  
rwthik@Zeus ~  
»
```

Question 2: Change to /etc directory.

Output:

```
rwthik@Zeus ~  
» cd /etc  
rwthik@Zeus /etc  
»
```

Question 3: Change to home directory using a single command.

Output:

```
rwthik@Zeus /etc
» cd
rwthik@Zeus ~
»
```

Question 4: Change to the parent directory of the current directory.

Output:

```
rwthik@Zeus ~
» cd ..
rwthik@Zeus /home
»
```

Question 5: Go to the root directory.

Output:

```
rwthik@Zeus /home
» cd /
rwthik@Zeus /
»
```

Question 6: Give a long listing of the root directory.

Output:

```
rwthik@Zeus /
» ls -Al
total 97
lrwxrwxrwx 1 root root 7 Sep 30 12:55 bin -> usr/bin
drwxr-xr-x 5 root root 1024 Feb 12 22:19 boot
-rw-r--r-- 1 root root 16845 Apr 16 2018 desktopfs-pkgs.txt
drwxr-xr-x 19 root root 3300 Feb 18 13:28 dev
drwxr-xr-x 97 root root 12288 Feb 18 17:44 etc
drwxr-xr-x 4 root root 4096 Jan 9 10:38 home
lrwxrwxrwx 1 root root 7 Sep 30 12:55 lib -> usr/lib
lrwxrwxrwx 1 root root 7 Sep 30 12:55 lib64 -> usr/lib
drwx----- 2 root root 16384 Jan 9 10:34 lost+found
-rw-r--r-- 1 root root 7 Apr 16 2018 .manjaro-tools
drwxr-xr-x 2 root root 4096 Nov 27 2017 mnt
drwxr-xr-x 6 root root 4096 Feb 2 15:29 opt
dr-xr-xr-x 166 root root 0 Feb 18 13:28 proc
drwxr-xr-x 14 root root 4096 Feb 15 22:26 root
-rw-r--r-- 1 root root 3973 Apr 16 2018 rootfs-pkgs.txt
drwxr-xr-x 25 root root 640 Feb 18 18:42 run
lrwxrwxrwx 1 root root 7 Sep 30 12:55/sbin -> usr/bin
drwxr-xr-x 4 root root 4096 Apr 16 2018 srv
dr-xr-xr-x 13 root root 0 Feb 18 13:28 sys
drwxrwxrwt 14 root root 340 Feb 18 19:33 tmp
drwxr-xr-x 10 root root 4096 Feb 18 12:28 usr
```

Question 7: Give a listing of the last 10 files of the root directory.

Output:

```
rwthik@Zeus /
» ls -Al | tail
dr-xr-xr-x 167 root root    0 Feb 18 13:28 proc
drwxr-x-- 14 root root 4096 Feb 15 22:26 root
-rw-r--r-- 1 root root 3973 Apr 16 2018 rootfs-pkgs.txt
drwxr-xr-x 25 root root   640 Feb 18 18:42 run
lrwxrwxrwx 1 root root    7 Sep 30 12:55 sbin -> usr/bin
drwxr-xr-x 4 root root 4096 Apr 16 2018 srv
dr-xr-xr-x 13 root root    0 Feb 18 13:28 sys
drwxrwxrwt 14 root root   340 Feb 18 19:33 tmp
drwxr-xr-x 10 root root 4096 Feb 18 12:28 usr
drwxr-xr-x 12 root root 4096 Feb 18 13:28 var
rwthik@Zeus /
»
```

Question 8: Stay where you are, and list the contents of /etc.

Output:

```
drwxr-xr-x 10 root root 4096 Feb 18 12:28 usr
drwxr-xr-x 12 root root 4096 Feb 18 13:28 var
rwthik@Zeus /
» ls /etc
acpi                manjaro-firefox-developer-edition.ini
adjtime             manjaro-firefox.ini
alsa               manjaro-firefox-kde.ini
anacrontab         manjaro-release
apparmor.d         manjaro-thunderbird.ini
arch-release       mdadm.conf
at.deny            mime.types
audisp             mke2fs.conf
audit             mkinitcpio.conf
avahi              mkinitcpio.d
bash.bash_logout  modprobe.d
bash.bashrc       modules-load.d
bindresvport.blacklist motd
binfmt.d          mpv
bluetooth         mtab
ca-certificates   nanorc
cifs-utils        ndctl
conf.d            netconfig
cpufreq-bench.conf netctl
cron.d            NetworkManager
```

Question 9: Create a directory testdir in your home directory.

Output:

```
rwthik@Zeus /  
» mkdir ~/testdir  
rwthik@Zeus /  
»
```

Question 10: Change to the /etc directory, stay there and create a directory newdir in your home directory(using a single command).

Output:

```
rwthik@Zeus /  
» cd /etc  
rwthik@Zeus /etc  
» mkdir ~/newdir  
rwthik@Zeus /etc  
»
```

Question 11: Create in one command the directories /dir1/dir2/dir3 (dir3 is a subdirectory from dir2, and dir2 is a subdirectory from dir1).

Output:

```
rwthik@Zeus /etc
» mkdir -p ~/dir1/dir2/dir3
rwthik@Zeus /etc
» tree ~/dir1
/home/rwthik/dir1
├─ dir2
│   └─ dir3
2 directories, 0 files
rwthik@Zeus /etc
»
```

Question 12: Display the calendar for April 2019.

Output:

```
rwthik@Zeus /etc
» cal apr 2019
    April 2019
Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30
rwthik@Zeus /etc
»
```

Output:

the 1990s, the number of people in the United States who are 65 years of age or older has increased by 50 percent, and the number of people 75 years of age or older has increased by 75 percent. The number of people 85 years of age or older has increased by 150 percent. The number of people 95 years of age or older has increased by 300 percent. The number of people 100 years of age or older has increased by 500 percent. The number of people 105 years of age or older has increased by 1,000 percent. The number of people 110 years of age or older has increased by 2,000 percent. The number of people 115 years of age or older has increased by 4,000 percent. The number of people 120 years of age or older has increased by 8,000 percent. The number of people 125 years of age or older has increased by 16,000 percent. The number of people 130 years of age or older has increased by 32,000 percent. The number of people 135 years of age or older has increased by 64,000 percent. The number of people 140 years of age or older has increased by 128,000 percent. The number of people 145 years of age or older has increased by 256,000 percent. The number of people 150 years of age or older has increased by 512,000 percent. The number of people 155 years of age or older has increased by 1,024,000 percent. The number of people 160 years of age or older has increased by 2,048,000 percent. The number of people 165 years of age or older has increased by 4,096,000 percent. The number of people 170 years of age or older has increased by 8,192,000 percent. The number of people 175 years of age or older has increased by 16,384,000 percent. The number of people 180 years of age or older has increased by 32,768,000 percent. The number of people 185 years of age or older has increased by 65,536,000 percent. The number of people 190 years of age or older has increased by 131,072,000 percent. The number of people 195 years of age or older has increased by 262,144,000 percent. The number of people 200 years of age or older has increased by 524,288,000 percent. The number of people 205 years of age or older has increased by 1,048,576,000 percent. The number of people 210 years of age or older has increased by 2,097,152,000 percent. The number of people 215 years of age or older has increased by 4,194,304,000 percent. The number of people 220 years of age or older has increased by 8,388,608,000 percent. The number of people 225 years of age or older has increased by 16,777,216,000 percent. The number of people 230 years of age or older has increased by 33,554,432,000 percent. The number of people 235 years of age or older has increased by 67,108,864,000 percent. The number of people 240 years of age or older has increased by 134,217,728,000 percent. The number of people 245 years of age or older has increased by 268,435,456,000 percent. The number of people 250 years of age or older has increased by 536,870,912,000 percent. The number of people 255 years of age or older has increased by 1,073,741,824,000 percent. The number of people 260 years of age or older has increased by 2,147,483,648,000 percent. The number of people 265 years of age or older has increased by 4,294,967,296,000 percent. The number of people 270 years of age or older has increased by 8,589,934,592,000 percent. The number of people 275 years of age or older has increased by 17,179,869,184,000 percent. The number of people 280 years of age or older has increased by 34,359,738,368,000 percent. The number of people 285 years of age or older has increased by 68,719,476,736,000 percent. The number of people 290 years of age or older has increased by 137,438,953,472,000 percent. The number of people 295 years of age or older has increased by 274,877,906,944,000 percent. The number of people 300 years of age or older has increased by 549,755,813,888,000 percent. The number of people 305 years of age or older has increased by 1,099,511,627,776,000 percent. The number of people 310 years of age or older has increased by 2,199,023,255,552,000 percent. The number of people 315 years of age or older has increased by 4,398,046,511,104,000 percent. The number of people 320 years of age or older has increased by 8,796,093,022,208,000 percent. The number of people 325 years of age or older has increased by 17,592,186,044,416,000 percent. The number of people 330 years of age or older has increased by 35,184,372,088,832,000 percent. The number of people 335 years of age or older has increased by 70,368,744,177,664,000 percent. The number of people 340 years of age or older has increased by 140,737,488,355,328,000 percent. The number of people 345 years of age or older has increased by 281,474,976,710,656,000 percent. The number of people 350 years of age or older has increased by 562,949,953,421,312,000 percent. The number of people 355 years of age or older has increased by 1,125,899,906,842,624,000 percent. The number of people 360 years of age or older has increased by 2,251,799,813,685,248,000 percent. The number of people 365 years of age or older has increased by 4,503,599,627,370,496,000 percent. The number of people 370 years of age or older has increased by 9,007,199,254,740,992,000 percent. The number of people 375 years of age or older has increased by 18,014,398,509,481,984,000 percent. The number of people 380 years of age or older has increased by 36,028,797,018,963,968,000 percent. The number of people 385 years of age or older has increased by 72,057,594,037,927,936,000 percent. The number of people 390 years of age or older has increased by 144,115,188,075,855,872,000 percent. The number of people 395 years of age or older has increased by 288,230,376,151,711,744,000 percent. The number of people 400 years of age or older has increased by 576,460,752,303,423,488,000 percent. The number of people 405 years of age or older has increased by 1,152,921,504,606,846,976,000 percent. The number of people 410 years of age or older has increased by 2,305,843,009,213,693,952,000 percent. The number of people 415 years of age or older has increased by 4,611,686,018,427,387,904,000 percent. The number of people 420 years of age or older has increased by 9,223,372,036,854,775,808,000 percent. The number of people 425 years of age or older has increased by 18,446,744,073,709,551,616,000 percent. The number of people 430 years of age or older has increased by 36,893,488,147,419,103,232,000 percent. The number of people 435 years of age or older has increased by 73,786,976,294,838,206,464,000 percent. The number of people 440 years of age or older has increased by 147,573,952,589,676,412,928,000 percent. The number of people 445 years of age or older has increased by 295,147,905,179,352,825,856,000 percent. The number of people 450 years of age or older has increased by 590,295,810,358,705,651,712,000 percent. The number of people 455 years of age or older has increased by 1,180,591,620,717,411,303,424,000 percent. The number of people 460 years of age or older has increased by 2,361,183,241,434,822,606,848,000 percent. The number of people 465 years of age or older has increased by 4,722,366,482,869,645,213,696,000 percent. The number of people 470 years of age or older has increased by 9,444,732,965,739,290,427,392,000 percent. The number of people 475 years of age or older has increased by 18,889,465,931,478,580,854,784,000 percent. The number of people 480 years of age or older has increased by 37,778,931,862,957,161,709,568,000 percent. The number of people 485 years of age or older has increased by 75,557,863,725,914,323,419,136,000 percent. The number of people 490 years of age or older has increased by 151,115,727,451,828,646,838,272,000 percent. The number of people 495 years of age or older has increased by 302,231,454,903,657,293,676,544,000 percent. The number of people 500 years of age or older has increased by 604,462,909,807,314,587,353,088,000 percent. The number of people 505 years of age or older has increased by 1,208,925,819,614,629,174,706,176,000 percent. The number of people 510 years of age or older has increased by 2,417,851,639,229,258,349,412,352,000 percent. The number of people 515 years of age or older has increased by 4,835,703,278,458,516,698,824,704,000 percent. The number of people 520 years of age or older has increased by 9,671,406,556,917,033,397,649,408,000 percent. The number of people 525 years of age or older has increased by 19,342,813,113,834,066,795,298,816,000 percent. The number of people 530 years of age or older has increased by 38,685,626,227,668,133,590,597,632,000 percent. The number of people 535 years of age or older has increased by 77,371,252,455,336,267,181,195,264,000 percent. The number of people 540 years of age or older has increased by 154,742,504,910,672,534,362,390,528,000 percent. The number of people 545 years of age or older has increased by 309,485,009,821,345,068,724,781,056,000 percent. The number of people 550 years of age or older has increased by 618,970,019,642,690,137,449,562,112,000 percent. The number of people 555 years of age or older has increased by 1,237,940,039,285,380,274,899,124,224,000 percent. The number of people 560 years of age or older has increased by 2,475,880,078,570,760,549,798,248,448,000 percent. The number of people 565 years of age or older has increased by 4,951,760,157,141,521,099,596,496,896,000 percent. The number of people 570 years of age or older has increased by 9,903,520,314,283,042,199,193,993,792,000 percent. The number of people 575 years of age or older has increased by 19,807,040,

Output:

Question 15: Redirect the output of the above command to a new file FileList.txt.

Output:

```
rwthik@Zeus ~  
» ls -a > FileList.txt  
rwthik@Zeus ~  
» cat FileList.txt  
.  
..  
.android  
Android  
.AndroidStudio3.3  
AndroidStudioProjects  
archrice  
.audacity-data  
.bash_history  
.bash_logout  
.bash_profile  
.bashrc  
.bashrc_arch  
.cache  
.config  
Desktop  
dir1  
.dir_colors  
.dmenurc  
.dmrc
```

Question 16: Redirect the number of lines of FileList.txt to CountFile.txt.

Output:

```
rwthik@Zeus ~  
» cat FileList.txt | wc -l > CountFile.txt  
rwthik@Zeus ~  
» cat CountFile.txt  
81  
rwthik@Zeus ~  
»
```

Question 17: List all the files in your home directory starting with 's' .

Output:

```
rwthik@Zeus ~  
» ls | grep -e "^s"  
sess  
startpage  
rwthik@Zeus ~  
»
```

Question 18: List all the file-names starting with "a", "b" or "s" .

Output:

```
rwthik@Zeus ~  
» ls | grep -e "^[abc]"  
archrice  
rwthik@Zeus ~  
»
```

Output:

[illegible]

Question 21: Toggle the cases in 'Story.txt' and store it in a file 'Togglestory.txt'.

Output:

```
rwthik@Zeus ~  
» cat Story.txt | tr 'a-zA-Z' 'A-Za-z' > Togglestory.txt  
rwthik@Zeus ~  
» cat Togglestory.txt  
LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT, SED DO EIUSMOD TEMPOR I  
NCIDIDUNT UT LABORE ET DOLORE MAGNA ALIQUA. UT ENIM AD MINIM VENIAM, QUIS NOSTRU  
D EXERCITATION ULLAMCO LABORIS NISI UT ALIQUIP EX EA COMMODO CONSEQUAT. DUIS AUT  
E IRURE DOLOR IN REPREHENDERIT IN VOLUPTATE VELIT ESSE CILLUM DOLORE EU FUGIAT N  
ULLA PARIATUR. EXCEPTEUR SINT OCCAECAT CUPIDATAT NON PROIDENT, SUNT IN CULPA QUI  
OFFICIA DESERUNT MOLLIT ANIM ID EST LABORUM.  
rwthik@Zeus ~  
»
```

Question 22: Sort the contents of 'Countries.txt' with Capital as the primary sort key and write the sorted output to 'SortCountry.txt'.

Output:

```
rwthik@Zeus ~  
» cat Countries.txt | sort -k2  
Algeria: Algiers  
Andorra: Andorra la Vella  
Azerbaijan: Baku  
Argentina: Buenos Aires  
Australia: Canberra  
Afghanistan: Kabul  
Angola: Luanda  
Albania: Tirana  
Austria: Vienna  
Armenia: Yerevan  
rwthik@Zeus ~  
»
```

Question 23: Display only the capital cities from 'Countries.txt'.

Output:

```
rwthik@Zeus ~  
» cat Countries.txt | awk '{print $2}'  
Kabul  
Tirana  
Algiers  
Andorra  
Luanda  
Buenos  
Yerevan  
Canberra  
Vienna  
Baku  
rwthik@Zeus ~  
»
```

Question 24: Locate all '.txt' and '.doc' files in the current directory .

Output:

```
rwthik@Zeus ~  
» ls -a | egrep ".*txt|.doc"  
Capstory.txt  
Countries.txt  
Story.txt  
Togglestory.txt  
rwthik@Zeus ~  
»
```

Question 25: Count the number of occurrence of 'the' in 'Story.txt'.

Output:

```
rwthik@Zeus ~  
» cat Story.txt | tr '[A-Z]' '[a-z]' | grep -o 'the' | wc -l  
0  
rwthik@Zeus ~  
» # The file Story.txt doesn't contain the word the  
rwthik@Zeus ~  
» cat Story.txt | tr '[A-Z]' '[a-z]' | grep -o 'in' | wc -l  
7  
rwthik@Zeus ~  
» # The file Story.txt contains 7 occurrences of the word in  
rwthik@Zeus ~  
»
```