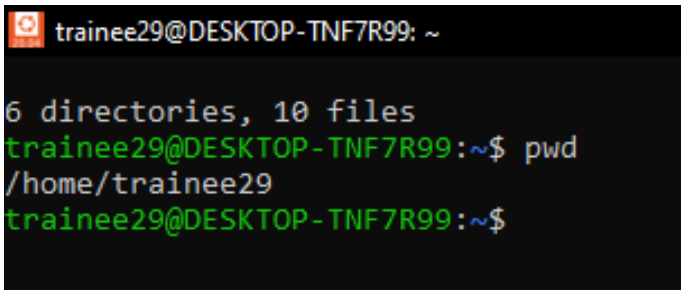
Commands Utilities

This assignment expects the participant to identify specific command(s) OR perform the given action using one or commands as per the given question. You are requested to maintain the answers (i.e command(s) as per given question) for all questions below.

Mandatory Questions

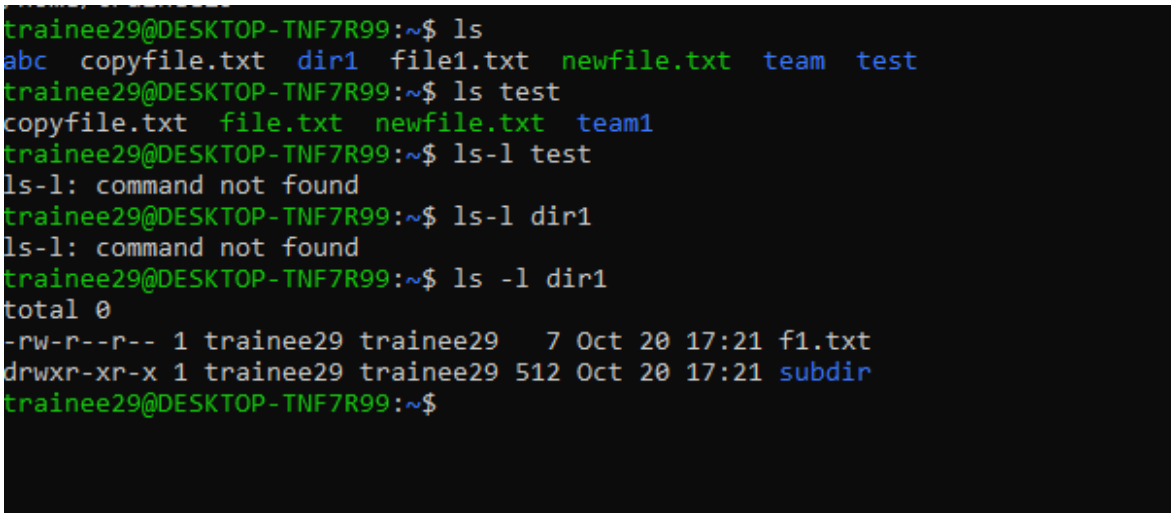
1. Which command is used to know the current working directory?

Ans : The pwd command that is abbreviation for the present working directory is used to know the current working directory. It display current working directory full path and name.



2. How would you find out its contents?

Ans : The pwd command that is abbreviation for the present working directory is used to know the current working directory. It display current working directory full path and name. To display information about a particular file or directory, specify the name with ls command. To display long listing information use - l option.



3. Identify the commands with inputs to do the following

a. create a directory d1

Ans : Use mkdir command . It creates a new directory.

b. create a subdirectory d2 in d1

Ans : Use mkdir command. It creates a new directory .

c. change to directory d2

Ans : Use cd command . It changes current working directory.

d. create an empty file “f1.txt”

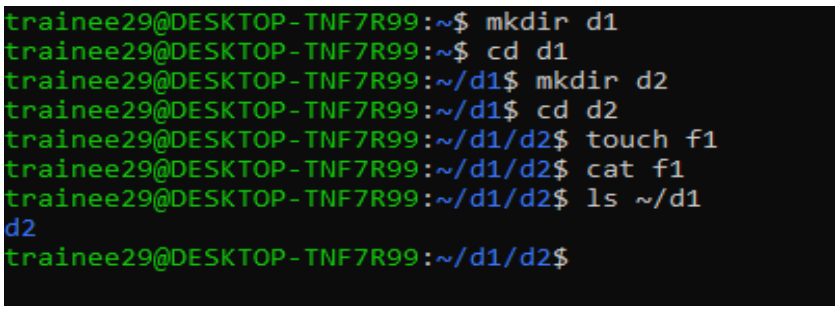
Ans : The touch command is used to create a file without any content

e. display the contents of “f1.txt”

Ans : Use cat command . It displays file contents on screen.

f. view the contents of d1 from current directory d2

Ans: Use command $ ls ~/d1



4. Use the ls command with its options. How will you identify directories from the listing?

The ls command is used to display the contents of a directory .

Options of ls command :

a. –l option : To display long listing information
b. –a option: list all files including hidden file starting with '.'
c. –i option : list file's inode index number

d. –s option: list file size
e. –S option: sort by file size
f. –r option: list in reverse order

```
trainee29@DESKTOP-TNF7R99:~$ ls -l dir1
total 0
-rw-r--r-- 1 trainee29 trainee29   7 Oct 20 17:21 f1.txt
drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 subdir
trainee29@DESKTOP-TNF7R99:~$ ls -a dir1
.  ..  f1.txt  subdir
trainee29@DESKTOP-TNF7R99:~$ ls -la dir1
total 0
drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 .
drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 20:16 ..
-rw-r--r-- 1 trainee29 trainee29   7 Oct 20 17:21 f1.txt
drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 subdir
trainee29@DESKTOP-TNF7R99:~$ ls -li dir1
total 0
10977524092041664 -rw-r--r-- 1 trainee29 trainee29   7 Oct 20 17:21 f1.txt
14918173765675310 drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 subdir
trainee29@DESKTOP-TNF7R99:~$ ls -ls dir1
total 0
0 -rw-r--r-- 1 trainee29 trainee29   7 Oct 20 17:21 f1.txt
0 drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 subdir
trainee29@DESKTOP-TNF7R99:~$ ls -lS dir1
total 0
drwxr-xr-x 1 trainee29 trainee29 512 Oct 20 17:21 subdir
-rw-r--r-- 1 trainee29 trainee29   7 Oct 20 17:21 f1.txt
```

5. Use ls to do the following
a. List files with single character names.

```
trainee29@DESKTOP-TNF7R99:~$ cat>A
^Z
[1]+  Stopped                 cat > A
trainee29@DESKTOP-TNF7R99:~$ cat>F
^Z
[2]+  Stopped                 cat > F
trainee29@DESKTOP-TNF7R99:~$ ls -l?
ls: invalid option -- '?'
Try 'ls --help' for more information.
trainee29@DESKTOP-TNF7R99:~$ ls -l ?
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:04 A
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:05 F
trainee29@DESKTOP-TNF7R99:~$ cat>1
^Z
[3]+  Stopped                 cat > 1
trainee29@DESKTOP-TNF7R99:~$ ls -l ?
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:06 1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:04 A
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:05 F
trainee29@DESKTOP-TNF7R99:~$
```

b. List hidden files also. [Note : Hidden files are files having name started with a “.”]

```
trainee29@DESKTOP-TNF7R99:~$ ls -la
total 8
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 21:06 .
drwxr-xr-x 1 root      root       512 Oct 20 12:44 ..
-rw------- 1 trainee29 trainee29  328 Oct 20 12:16 .bash_history
-rw-r--r-- 1 trainee29 trainee29  220 Oct 20 10:43 .bash_logout
-rw-r--r-- 1 trainee29 trainee29 3771 Oct 20 10:43 .bashrc
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 10:43 .landscape
-rw------- 1 trainee29 trainee29   28 Oct 20 11:41 .lesshst
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 10:43 .motd_shown
-rw-r--r-- 1 trainee29 trainee29  807 Oct 20 10:43 .profile
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 12:31 .sudo_as_admin_successful
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:06 1
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:04 A
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:05 F
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 12:59 abc
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 14:46 copyfile.txt
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 20:16 d1
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 17:21 dir1
-r--r--r-- 1 trainee29 trainee29   20 Oct 20 16:31 file1.txt
-rwxr-xr-x 1 trainee29 trainee29    0 Oct 20 14:47 newfile.txt
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 11:34 team
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 15:12 test
```

c. Suppose there are files tb1.1, tb2.1, tb3.1, ...tb10.1. Write command to list all the files [Hint: use wild card characters]

```
trainee29@DESKTOP-TNF7R99:~$ mkdir dir2
trainee29@DESKTOP-TNF7R99:~$ cd dir2
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb1.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb2.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb3.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb4.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb5.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb6.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb7.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb8.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb9.1
trainee29@DESKTOP-TNF7R99:~/dir2$ touch tb10.1
trainee29@DESKTOP-TNF7R99:~/dir2$ ls -l tb[0-9]*.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:34 tb1.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:35 tb10.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:34 tb2.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:34 tb3.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:34 tb4.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:34 tb5.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:35 tb6.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:35 tb7.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:35 tb8.1
-rw-r--r-- 1 trainee29 trainee29 0 Oct 20 21:35 tb9.1
```

6. Write the command to list all files in descending order of their size.

```
trainee29@DESKTOP-TNF7R99:~$ ls -laS
total 8
-rw-r--r-- 1 trainee29 trainee29 3771 Oct 20 10:43 .bashrc
-rw-r--r-- 1 trainee29 trainee29  807 Oct 20 10:43 .profile
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 21:21 .
drwxr-xr-x 1 root      root       512 Oct 20 12:44 ..
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 10:43 .landscape
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 12:59 abc
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 20:16 d1
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 17:21 dir1
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 11:34 team
drwxr-xr-x 1 trainee29 trainee29  512 Oct 20 15:12 test
-rw------- 1 trainee29 trainee29  328 Oct 20 12:16 .bash_history
-rw-r--r-- 1 trainee29 trainee29  220 Oct 20 10:43 .bash_logout
-rw------- 1 trainee29 trainee29   28 Oct 20 11:41 .lesshst
-r--r--r-- 1 trainee29 trainee29   20 Oct 20 16:31 file1.txt
-rw-r--r-- 1 trainee29 trainee29    8 Oct 20 21:18 tb1.10.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:16 tb1.2.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:16 tb1.3.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:16 tb1.4.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:16 tb1.5.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:17 tb1.6.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:17 tb1.7.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:18 tb1.8.txt
-rw-r--r-- 1 trainee29 trainee29    7 Oct 20 21:18 tb1.9.txt
-rw-r--r-- 1 trainee29 trainee29    6 Oct 20 21:19 tb1.1
-rw-r--r-- 1 trainee29 trainee29    5 Oct 20 21:21 tb10.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:20 tb1.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:20 tb2.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:20 tb3.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:20 tb4.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:20 tb5.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:21 tb6.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:21 tb7.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:21 tb8.1.txt
-rw-r--r-- 1 trainee29 trainee29    4 Oct 20 21:21 tb9.1.txt
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 10:43 .motd_shown
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 12:31 .sudo_as_admin_successful
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:06 1
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:04 A
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 21:05 F
-rw-r--r-- 1 trainee29 trainee29    0 Oct 20 14:46 copyfile.txt
-rwxr-xr-x 1 trainee29 trainee29    0 Oct 20 14:47 newfile.txt
```

7. Suppose there are files temp1, temp2, temp3. Write command to remove the files without listing them explicitly

Ans: rm command is used to remove files without listing them explicitly.

```
trainee29@DESKTOP-TNF7R99:~/team$ touch temp1
trainee29@DESKTOP-TNF7R99:~/team$ touch temp2
trainee29@DESKTOP-TNF7R99:~/team$ touch temp3
trainee29@DESKTOP-TNF7R99:~/team$ touch temp4
trainee29@DESKTOP-TNF7R99:~/team$ touch tp1
trainee29@DESKTOP-TNF7R99:~/team$ ls
temp1  temp2  temp3  temp4  tp1
trainee29@DESKTOP-TNF7R99:~/team$ rm temp*
trainee29@DESKTOP-TNF7R99:~/team$ ls
tp1
trainee29@DESKTOP-TNF7R99:~/team$
```

8. Which command is used to list top few lines in the file?

Ans: head command is used as it displays top few lines of a file.

```
trainee29@DESKTOP-TNF7R99:~/dir3$ cat > file1
hello
welcome to capgemini
i am annayasha paul
from kolkata
abstraction is pillar of oops
inheritance is feature by which one class is inherit the feature of another class
polymorphism is done one work in many ways
encapsulation is wrapping all the data together in single unit
OOPs, this all the features
^Z
[5]+  Stopped                 cat > file1
trainee29@DESKTOP-TNF7R99:~/dir3$ head file1
hello
welcome to capgemini
i am annayasha paul
from kolkata
abstraction is pillar of oops
inheritance is feature by which one class is inherit the feature of another class
polymorphism is done one work in many ways
encapsulation is wrapping all the data together in single unit
OOPs, this all the features
trainee29@DESKTOP-TNF7R99:~/dir3$ head -5 file1
hello
welcome to capgemini
i am annayasha paul
from kolkata
abstraction is pillar of oops
trainee29@DESKTOP-TNF7R99:~/dir3$
```

9. Create a directory “testdir”

```
trainee29@DESKTOP-TNF7R99:~$ mkdir testdir
trainee29@DESKTOP-TNF7R99:~$ ls -l testdir
total 0
trainee29@DESKTOP-TNF7R99:~$
```

10. Use cp command to do the following

a. Copy the file tb1.1 (created above) in the same directory.

```
trainee29@DESKTOP-TNF7R99:~/testdir$ cat>tb1.1
hello
capgemini
^Z
[7]+  Stopped                 cat > tb1.1
trainee29@DESKTOP-TNF7R99:~/testdir$ cp tb1.1 new_file
trainee29@DESKTOP-TNF7R99:~/testdir$ cat tb1.1
hello
capgemini
trainee29@DESKTOP-TNF7R99:~/testdir$ cat new_file
hello
capgemini
trainee29@DESKTOP-TNF7R99:~/testdir$
```

b.Write a command to copy all the files i.e tb1.1,tb2.1,tb3.1,.....tb10.1 in a new directory –“new”

```
trainee29@DESKTOP-TNF7R99:~/testdir$ ls
new_file  tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~/testdir$ mkdir ~/new
trainee29@DESKTOP-TNF7R99:~/testdir$ cp tb[0-9]*.1 ~/new
trainee29@DESKTOP-TNF7R99:~/testdir$ ls ~/new
tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~/testdir$
```

c. Create a subdirectory in new in named“new1”.

```
trainee29@DESKTOP-TNF7R99:~/testdir$ mkdir  ~/new/new1
trainee29@DESKTOP-TNF7R99:~/testdir$ ls ~/new
new1  tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~/testdir$
```

d. Write a command to copy selectively only tb2.1, tb6.1, tb7.1 and tb10.1 in the directory new1.

```
trainee29@DESKTOP-TNF7R99:~$ ls new
new1  tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~$ ls new/new1
trainee29@DESKTOP-TNF7R99:~$ cp new/tb[267].1 new/tb10.1 new/new1
trainee29@DESKTOP-TNF7R99:~$ ls new/new1
tb10.1  tb2.1  tb6.1  tb7.1
trainee29@DESKTOP-TNF7R99:~$
```

e. Write a command to copy the entire directory “new” to a directory “newprogs”. [Note : use the –R option of “cp” command]

```
trainee29@DESKTOP-TNF7R99:~$ ls new
new1  tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~$ cp -R new newprogs
trainee29@DESKTOP-TNF7R99:~$ ls newprogs
new1  tb1.1  tb10.1  tb2.1  tb3.1  tb4.1  tb5.1  tb6.1  tb7.1  tb8.1  tb9.1
trainee29@DESKTOP-TNF7R99:~$
```

12. Use a single command rmdir once to remove “testdir” and all its sub directories and files created above..

Ans: rmdir works only on empty directories and hence will not work for a non-empty directory “testdir”. We need to use rm –r testdir for this purpose.

```
trainee29@DESKTOP-TNF7R99:~$ ls -l testdir
total 0
-rw-r--r-- 1 trainee29 trainee29 16 Oct 20 22:03 new_file
-rw-r--r-- 1 trainee29 trainee29 16 Oct 20 22:02 tb1.1
-rw-r--r-- 1 trainee29 trainee29  4 Oct 20 22:05 tb10.1
-rw-r--r-- 1 trainee29 trainee29  3 Oct 20 22:04 tb2.1
-rw-r--r-- 1 trainee29 trainee29  3 Oct 20 22:04 tb3.1
-rw-r--r-- 1 trainee29 trainee29  5 Oct 20 22:05 tb4.1
-rw-r--r-- 1 trainee29 trainee29  0 Oct 20 22:05 tb5.1
-rw-r--r-- 1 trainee29 trainee29  5 Oct 20 22:05 tb6.1
-rw-r--r-- 1 trainee29 trainee29  0 Oct 20 22:05 tb7.1
-rw-r--r-- 1 trainee29 trainee29  6 Oct 20 22:05 tb8.1
-rw-r--r-- 1 trainee29 trainee29  7 Oct 20 22:05 tb9.1
trainee29@DESKTOP-TNF7R99:~$ touch testdir/file
trainee29@DESKTOP-TNF7R99:~$ ls -l testdir
total 0
-rw-r--r-- 1 trainee29 trainee29  0 Oct 20 22:15 file
-rw-r--r-- 1 trainee29 trainee29 16 Oct 20 22:03 new_file
-rw-r--r-- 1 trainee29 trainee29 16 Oct 20 22:02 tb1.1
-rw-r--r-- 1 trainee29 trainee29  4 Oct 20 22:05 tb10.1
-rw-r--r-- 1 trainee29 trainee29  3 Oct 20 22:04 tb2.1
-rw-r--r-- 1 trainee29 trainee29  3 Oct 20 22:04 tb3.1
-rw-r--r-- 1 trainee29 trainee29  5 Oct 20 22:05 tb4.1
-rw-r--r-- 1 trainee29 trainee29  0 Oct 20 22:05 tb5.1
-rw-r--r-- 1 trainee29 trainee29  5 Oct 20 22:05 tb6.1
-rw-r--r-- 1 trainee29 trainee29  0 Oct 20 22:05 tb7.1
-rw-r--r-- 1 trainee29 trainee29  6 Oct 20 22:05 tb8.1
-rw-r--r-- 1 trainee29 trainee29  7 Oct 20 22:05 tb9.1
trainee29@DESKTOP-TNF7R99:~$ rm -r testdir
trainee29@DESKTOP-TNF7R99:~$ ls -l testdir
ls: cannot access 'testdir': No such file or directory
trainee29@DESKTOP-TNF7R99:~$
```

13. Which command is used to get the manual information of a command?

```
PWD(1)                                  User Commands                                 PWD(1)

NAME
       pwd - print name of current/working directory

SYNOPSIS
       pwd [OPTION]...

DESCRIPTION
       Print the full filename of the current working directory.

       -L, --logical
              use PWD from environment, even if it contains symlinks

       -P, --physical
              avoid all symlinks

       --help display this help and exit

       --version
              output version information and exit

       If no option is specified, -P is assumed.

       NOTE:  your  shell may have its own version of pwd, which usually supersedes the version described here.  Please refer to your shell's documentation for de-
       tails about the options it supports.

AUTHOR
       Written by Jim Meyering.

REPORTING BUGS
       GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
       Report pwd translation bugs to <https://translationproject.org/team/>

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       This is free software: you are free to change and redistribute it.  There is NO WARRANTY, to the extent permitted by law.

SEE ALSO
       getcwd(3)

       Full documentation at: <https://www.gnu.org/software/coreutils/pwd>
       or available locally via: info '(coreutils) pwd invocation'
 Manual page pwd(1) line 1 (press h for help or q to quit)
```

14. If you are not able to change to a directory what could be the likely cause?

Ans: If we are not able to change to a directory then the possible causes may be :

Either the directory might not be present or we might not have the access permission to the destination directory.

15. Explain the differences among the following commands:

a. cd /

It changes the current working directory to the entire system’s root directory.

b. cd ..

It changes the current working directory to its parent directory.

c. cd

It changes the current working directory to the home(login) directory in linux.

e.cd ../..

It changes the current working directory to two parent directories backwards.