

Name – Anup Kore

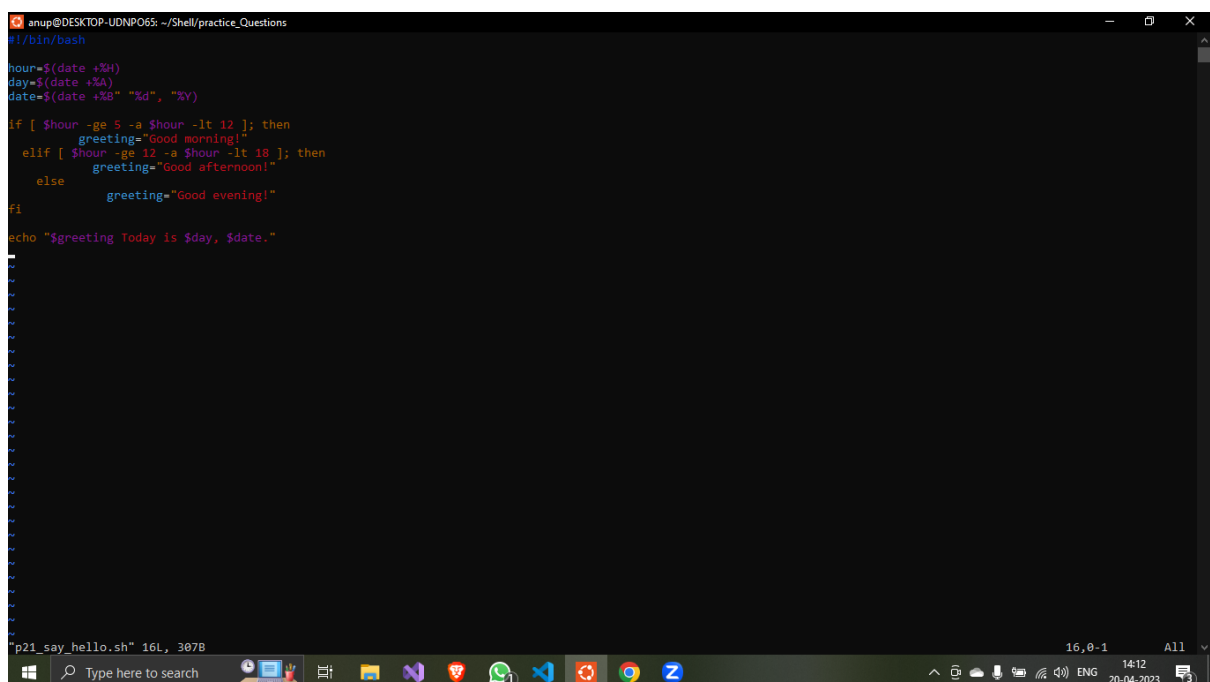
Topic – Shell practice questions from 21 to 34

Date – 20-04-2023

Question 21

Script called say_hello, which will print greetings based on time and to provide date information .

Code –



```
anup@DESKTOP-UDNPO65: ~/Shell/practice_Questions
#!/bin/bash

hour=$(date +%H)
day=$(date +%A)
date=$(date +%d "%d", "%Y)

if [ $hour -ge 5 -a $hour -lt 12 ]; then
    greeting="Good morning!"
elif [ $hour -ge 12 -a $hour -lt 18 ]; then
    greeting="Good afternoon!"
else
    greeting="Good evening!"
fi

echo "$greeting Today is $day, $date."
```

output

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 4.4.0-19041-Microsoft x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

This message is shown once a day. To disable it please create the
/home/anup/.hushlogin file.
anup@DESKTOP-UDNP065:~$ cd Shell
anup@DESKTOP-UDNP065:~/Shell$ ls
Hello_World.sh  Test2  Variables.sh  assignment-2.sh  assignment-4.sh  for_loop.sh  practice_Questions  user_input.sh
Test           Test3  assignment-1.sh  assignment-3.sh  assignment-5.sh  if_else.sh  switch.sh  variables.sh
anup@DESKTOP-UDNP065:~/Shell$ cd practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p21_say_hello.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p21_say_hello.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p21_say_hello.sh
Good afternoon! Today is Thursday, April 20, 2023.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p20.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p20.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p20.sh
1AC05s4I
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
```

Question 22

Script to convert content of file lower to uppercase and upper to lowercase.

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

echo -n "Enter the file name: "
read file_name

if [ ! -f $file_name ]; then
    echo "File does not exist"
    exit 1
fi

echo 1 = To Upper Case
echo 2 = To Lower Case

echo -n "Convert to uppercase or lowercase? Please enter your choice_"
read choice

case $choice in
    1)
        tr '[:lower:]' '[:upper:]' < $file_name
        ;;
    2)
        tr '[:upper:]' '[:lower:]' < $file_name
        ;;
    *)
        echo "Invalid choice"
        exit 1
        ;;
esac

-- REPLACE --
```

```

anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat > a.txt
Hello Everyone I am Anup Kore
I am from Solapur Maharashtra
I have completed B.Tech in IT
^C
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat a.txt
Hello Everyone I am Anup Kore
I am from Solapur Maharashtra
I have completed B.Tech in IT
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p23.sh a.txt
Error: a.txt contains mixed case content
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat > a.txt
HELLO I AM ANUP KORE
I AM FROM SOLAPUR MAHARASHTRA
^C
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p23.sh a.txt
Converted a.txt to lowercase
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat a.txt
hello i am anup kore
i am from solapur maharashtra
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p22.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p22.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p22.sh
Enter the file name: a.txt
1 = To Upper Case
2 = To Lower Case
Convert to uppercase or lowercase? Please enter your choice1
HELLO I AM ANUP KORE
I AM FROM SOLAPUR MAHARASHTRA
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p22.sh
Enter the file name: a.txt
1 = To Upper Case
2 = To Lower Case
Convert to uppercase or lowercase? Please enter your choice2
hello i am anup kore

```

```
Script to convert content of file lower to uppercase and upper to lowercase.
```

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

if [[ $# -eq 0 ]]; then
    echo "Usage: $0 [filename]"
    exit 1
fi

filename="$1"

if [[ ! -r "$filename" ]]; then
    echo "Error: $filename is not a readable file"
    exit 1
fi

content=$(cat "$filename")

if [[ "$content" == "${content,,}" ]]; then
    echo "${content^^}" > "$filename"
    echo "Converted $filename to uppercase"
elif [[ "$content" == "${content^^}" ]]; then
    echo "${content,,}" > "$filename"
    echo "Converted $filename to lowercase"
else
    echo "Error: $filename contains mixed case content"
    exit 1
fi
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat > a.txt
Hello Everyone I am Anup Kore
I am from Solapur Maharashtra
I have completed B.Tech in IT
^C
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat a.txt
Hello Everyone I am Anup Kore
I am from Solapur Maharashtra
I have completed B.Tech in IT
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p23.sh a.txt
Error: a.txt contains mixed case content
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p23.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat > a.txt
HELLO I AM ANUP KORE
I AM FROM SOLAPUR MAHARASHTRA
^C
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p23.sh a.txt
Converted a.txt to lowercase
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cat a.txt
hello i am anup kore
i am from solapur maharashtra
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p22.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p22.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p22.sh
Enter the file name: a.txt
1 = To Upper Case
2 = To Lower Case
Convert to uppercase or lowercase? Please enter your choice1
HELLO I AM ANUP KORE
I AM FROM SOLAPUR MAHARASHTRA
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p22.sh
Enter the file name: a.txt
1 = To Upper Case
2 = To Lower Case
Convert to uppercase or lowercase? Please enter your choice2
hello i am anup kore
```

Question 24

Script to use pipes or redirection to create an infinite feedback loop.

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

while true;
do
    echo "hello" | cat
done
```

Output –

[illegible]

Question 25

Script to use a recursive function to print each argument passed to the function.

Code –

```
anup@DESKTOP-UDNPO65: ~/Shell/practice_Questions
#!/bin/bash

print_arguments()
{
    if [[ $# -gt 0 ]];
    then
        echo "$1"
        shift
        print_arguments "$@"
    fi
}

print_arguments "$@"
```

Output –

[illegible]

Question 26

Code -

```
anup@DESKTOP-UDNPO65: ~/Shell/practice_Questions
#!/bin/bash

if [ $# -eq 0 ];
then
    echo "Please provide a file system or mount point as an argument"
    exit 1
fi

if mountpoint -q -- "$1";
then
    echo "$1 is a currently mounted file system"
else
    _echo "$1 is not a currently mounted file system"
fi
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p30.sh
Number of users with user IDs between 500 and 10000: 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test
Test is not a directory
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ls
p1.sh p10.sh p11.sh p12.sh p2.sh p27.sh p3.sh p30.sh p31.sh p32.sh p33.sh p34.sh p4.sh p5.sh p6.sh p7.sh p8.sh p9.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test22
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test22
Contents of Test22:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cp p27.sh Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
-rwxr--r-- 1 anup anup 180 Apr 19 22:25 p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda8
/dev/sda8 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda1
/dev/sda1 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda2
/dev/sda2 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
```

Question 27

Script that takes any number of directories as command-line arguments and then lists the contents of each of the directories.

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

for dir in "$@"
do
    if [ -d "$dir" ]
    then
        echo "Contents of $dir:"
        ls -l "$dir"
    else
        echo "$dir is not a directory"
    fi
done
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p30.sh
Number of users with user IDs between 500 and 10000: 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test
Test is not a directory
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ls
p1.sh p10.sh p11.sh p12.sh p2.sh p27.sh p3.sh p30.sh p31.sh p32.sh p33.sh p34.sh p4.sh p5.sh p6.sh p7.sh p8.sh p9.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test22
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test22
Contents of Test22:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cp p27.sh Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
-rwxr--r-- 1 anup anup 180 Apr 19 22:25 p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda8
/dev/sda8 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda1
/dev/sda1 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda2
/dev/sda2 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
```

Question 28

Script to locks file permissions for a particular directory for groups and others

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

if [ $# -eq 0 ]
then
    echo "Usage: bash $0 <directory>"
    exit 1
fi

echo "Original file permissions:"
ls -l "$1"

chmod go-rwx "$1"/*
chmod go-rwx "$1"

echo "New file permissions:"
ls -l "$1"

-- REPLACE --
```


Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ls
A.txt  ak_img1.jpg  p10.sh  p13.sh  p16.sh  p19.sh  p21.sh  p23.sh  p26.sh  p30.sh  p33.sh  p5.sh  p8.sh  s3.swp
Test11 ak_img2.jpg  p11.sh  p14.sh  p17.sh  p2.sh  p21_say_hello.sh  p24.sh  p27.sh  p31.sh  p34.sh  p6.sh  p9.sh  text.txt
Test22 p1.sh       p12.sh  p15.sh  p18.sh  p20.sh  p22.sh  p25.sh  p3.sh  p32.sh  p4.sh  p7.sh  practice_Questions.txt
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p28.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p28.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p28.sh
Usage: bash ./p28.sh <directory>
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p28.sh Test11
Original file permissions:
total 0
-rwxr--r-- 1 anup anup 180 Apr 19 22:25 p27.sh
-rw-r--r-- 1 anup anup  0 Apr 20 14:17 s1.swp
-rw-r--r-- 1 anup anup  0 Apr 20 14:17 s2.swp
New file permissions:
./p28.sh: line 20: ls -l Test11: command not found
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p29.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p29.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p29.sh
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system Filesystem has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system rootfs has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system none has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system none has less than 10% free space available.
(standard_in) 1: syntax error
```

Question 29

Script to display the names of any file-system which have less than 10% free space available

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

df_output=$(df -B1)

while read -r line;
do
    if [[ $line == Filesystem* ]];
    then
        continue
    fi

    fs=$(echo "$line" | awk '{print $1}')
    used=$(echo "$line" | awk '{print $5}')
    available=$(echo "$line" | awk '{print $4}')

    used_percentage=$(echo "scale=2; $used * 100 / ($used + $available)" | bc)
    available_percentage=$(echo "scale=2; $available * 100 / ($used + $available)" | bc)

    if (( available_percentage < 10 ));
    then
        echo "File-system $fs has less than 10% free space available."
    fi
done <<< "$df_output"

p29.sh" 30L, 564B 26,7 All
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ls
A.txt  ak_img1.jpg  p10.sh  p13.sh  p16.sh  p19.sh  p21.sh  p23.sh  p26.sh  p30.sh  p33.sh  p5.sh  p8.sh  s3.swp
Test11 ak_img2.jpg  p11.sh  p14.sh  p17.sh  p2.sh  p21_say_hello.sh  p24.sh  p27.sh  p31.sh  p34.sh  p6.sh  p9.sh  text.txt
Test22 p1.sh       p12.sh  p15.sh  p18.sh  p20.sh  p22.sh  p25.sh  p3.sh  p32.sh  p4.sh  p7.sh  practice_Questions.txt
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p28.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p28.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p28.sh
Usage: bash ./p28.sh <directory>
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p28.sh Test11
Original file permissions:
total 0
-rwxr--r-- 1 anup anup 180 Apr 19 22:25 p27.sh
-rw-r--r-- 1 anup anup  0 Apr 20 14:17 s1.swp
-rw-r--r-- 1 anup anup  0 Apr 20 14:17 s2.swp
New file permissions:
./p28.sh: line 20: ls -l Test11: command not found
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p29.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p29.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p29.sh
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system Filesystem has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system rootfs has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system none has less than 10% free space available.
(standard_in) 1: syntax error
(standard_in) 1: syntax error
(standard_in) 1: syntax error
File-system none has less than 10% free space available.
(standard_in) 1: syntax error
```

Question – 30

Script to count the number of users with user IDs between 500 and 10000 on the system

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

count=0

while IFS=: read -r user_id rest
do
    if [[ $user_id -ge 500 && $user_id -le 10000 ]]
    then
        count=$((count+1))
    fi
done < /etc/passwd

echo "Number of users with user IDs between 500 and 10000: $count"
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p30.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p30.sh
Number of users with user IDs between 500 and 10000: 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test
Test is not a directory
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ls
p1.sh p10.sh p11.sh p12.sh p2.sh p27.sh p3.sh p30.sh p31.sh p32.sh p33.sh p34.sh p4.sh p5.sh p6.sh p7.sh p8.sh p9.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ mkdir Test22
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test22
Contents of Test22:
total 0
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ cp p27.sh Test11
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p27.sh Test11
Contents of Test11:
total 0
-rwxr--r-- 1 anup anup 180 Apr 19 22:25 p27.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p26.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda8
/dev/sda8 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda1
/dev/sda1 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p26.sh /dev/sda2
/dev/sda2 is not a currently mounted file system
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
```

Question – 31

Script or each directory in the \$PATH variable, to display the number of executable files in that directory.

Code -

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

IFS=: read -ra dirs <<< "$PATH"
for dir in "${dirs[@]}";
do
    num_exec=$(find "$dir" -type f -perm +x | wc -l)

    echo "Directory: $dir"
    echo "Number of executable files: $num_exec"
    echo ""
done
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p34.sh
Enter Your Weight in Kg
60
Enter Your Height in Meters
1.75
File scale=2 1.75 * 1.75 is unavailable.

anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p34.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p34.sh
Enter your weight in kilograms:
60
Enter your height in meters:
1.72
Your BMI is 20.33
You have a healthy weight.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p32.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p32.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
anup
User anup found in the system.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
root
User root found in the system.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p31.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p31.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p31.sh
find: invalid mode '+t11'
Directory: /usr/local/sbin
Number of executable files: 0
find: invalid mode '+t11'
Directory: /usr/local/bin
Number of executable files: 0
```

Question 32

Script to search a user present in the system.

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

echo "Enter the username to search for: "
read username

if grep -q "^$username:" /etc/passwd ; then
    echo "User $username found in the system."
else
    echo "User $username not found in the system."
fi
```

Output –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p34.sh
Enter Your Weight in Kg
60
Enter Your Height in Meters
1.75
File scale=2 1.75 * 1.75 is unavailable.

anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p34.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p34.sh
Enter your weight in kilograms:
60
Enter your height in meters:
1.72
Your BMI is 20.33
You have a healthy weight.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p32.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p32.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
anup
User anup found in the system.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
root
User root found in the system.
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ vi p31.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ chmod u+x p31.sh
anup@DESKTOP-UDNP065:~/Shell/practice_Questions$ ./p31.sh
find: invalid mode '+t11'
Directory: /usr/local/sbin
Number of executable files: 0
find: invalid mode '+t11'
Directory: /usr/local/bin
Number of executable files: 0
```

Question 34

Script to calculate the BMI.

Code –

```
anup@DESKTOP-UDNP065: ~/Shell/practice_Questions
#!/bin/bash

echo "Enter your weight in kilograms:"
read weight

echo "Enter your height in meters:"
read height

# Calculate BMI
bmi=$((echo "scale=2; $weight / ($height * $height)" | bc))

echo "Your BMI is $bmi"

# Determine weight status based on WHO guidelines
if (( $(echo "$bmi < 18.5" | bc -l) )); then
    echo "You are underweight."
elif (( $(echo "$bmi < 25" | bc -l) )); then
    echo "You have a healthy weight."
elif (( $(echo "$bmi < 30" | bc -l) )); then
    echo "You are overweight."
else
    echo "You are obese."
fi
```

Output –

```
anup@DESKTOP-U0NP065: ~/Shell/practice_Questions
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ ./p34.sh
Enter Your Weight in Kg
60
Enter Your Height in Meters
1.75
File scale=2 1.75 * 1.75 is unavailable.

anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ vi p34.sh
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ ./p34.sh
Enter your weight in kilograms:
60
Enter your height in meters:
1.72
Your BMI is 20.33
You have a healthy weight.
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ vi p32.sh
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ chmod u+x p32.sh
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
anup
User anup found in the system.
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ ./p32.sh
Enter the username to search for:
root
User root found in the system.
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ vi p31.sh
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ chmod u+x p31.sh
anup@DESKTOP-U0NP065:~/Shell/practice_Questions$ ./p31.sh
find: invalid mode '+111'
Directory: /usr/local/sbin
Number of executable files: 0
find: invalid mode '+111'
Directory: /usr/local/bin
Number of executable files: 0
```