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OS-LAB-ASSIGNMENT-03

1) Write a shell script, which finds the prime factors of a given number.

```
  GNU nano 4.8                          q1.sh
#question 1

echo -e "ENTER NUMBER TO FIND PRIME FACTORS OF IT : \c"
read num

if [ $num -le 0 ]
then
        echo "ENTERED NUMBER IS NON-POSITIVE"
        exit 1
fi
echo -e "THE PRIME FACTORS OF $num IS/ARE : \c"
i=2
while [ $i -lt $num ]
do
        primecheck=0
        if [ $((num%i)) -eq 0 ]
        then
                j=2
                while [ $j -le $((i/2)) ]
                do
                        if [ $((i%j)) -eq 0 ]
                        then
                                primecheck=1
                                break
                        fi
                        j=`expr $j + 2`
                done
                if [ $primecheck -eq 0 ]
                then
                        echo -e "$i \c"
                fi
        fi
        i=`expr $i + 1`
done
echo ""
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q1.sh
ENTER NUMBER TO FIND PRIME FACTORS OF IT : 9
THE PRIME FACTORS OF 9 IS/ARE : 3
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q1.sh
ENTER NUMBER TO FIND PRIME FACTORS OF IT : 8
THE PRIME FACTORS OF 8 IS/ARE : 2
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q1.sh
ENTER NUMBER TO FIND PRIME FACTORS OF IT : 7
THE PRIME FACTORS OF 7 IS/ARE :
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q1.sh
ENTER NUMBER TO FIND PRIME FACTORS OF IT : 6
THE PRIME FACTORS OF 6 IS/ARE : 2 3
```

2) Write a shell script that accepts a positive integer value from the user, say 34, and prints out all the divisors of 34 as a list:

Enter a positive integer: 34

The divisors of 34 are: 1, 2, 17, and 34

```
  GNU nano 4.8                          q2.sh
#question 3

echo -e "ENTER NUMBER TO LIST DIVISORS : \c"
read n
i=1
while [ $i -le $n ]
do
        if [ $((n%i)) -eq 0 ]
        then
                echo -e "$i \c"
        fi
        i=`expr $i + 1`
done
echo ""
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q2.sh
ENTER NUMBER TO LIST DIVISORS : 100
1 2 4 5 10 20 25 50 100
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q2.sh
ENTER NUMBER TO LIST DIVISORS : 111
1 3 37 111
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q2.sh
ENTER NUMBER TO LIST DIVISORS : 91
1 7 13 91
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q2.sh
ENTER NUMBER TO LIST DIVISORS : 93
1 3 31 93
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q2.sh
ENTER NUMBER TO LIST DIVISORS : 17
1 17
```

3) Write a shell script, which prints good morning or good evening depending on the login time of the user.

```
  GNU nano 4.8                          q3.sh
#question 3

hr=$(date +"%H")
t=$(date +"%T")
if [ $hr -ge 4 -a $hr -lt 12 ]
then
        echo -e "GOOD MORNING, IT'S TIME FOR BREAKFAST.($t)1"
elif [ $hr -ge 12 -a $hr -lt 16 ]
then
        echo -e "GOOD AFTERNON, IT'S TIME FOR TEA.($t PM)"
elif [ $hr -ge 16 -a $hr -lt 19 ]
then
        echo -e "GOOD EVENING, IT'S TIME FOR SNACKS.($t PM)"
elif [ $hr -ge 19 -a $hr -le 23 ]
then
        echo -e "TIME TO SLEEP, IT'S $t PM NIGHT"
else
        echo -e "GOOD NIGHT, IT'S $t AM NIGHT"
fi
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q3.sh
TIME TO SLEEP, IT'S 23:39:24 PM NIGHT
```

4) A shell script, which takes as command line input a number n, and a word. It then prints the word n times, once on each line.

```
  GNU nano 4.8                          q4.sh
#question 4

if [ $# -ne 2 ]
then
        echo "INCORRECT NUMBER OF ARGUMENTS!"
else
i=0
while [ $i -lt $1 ]
do
        echo "$2"
        i=`expr $i + 1`
done
fi
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q4.sh 10 "Br
ijesh Rohit"
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
Brijesh Rohit
```

5) Write a shell script, which finds the total number of blank lines in the given file.

```
  GNU nano 4.8                          q5.sh
#question 5

echo -e "ENTER FILE NAME : \c"
read filename
if [ -e $filename ]
then
        echo -e "TOTAL NUMBER OF BLANK LINES : \c"
        grep -c ^$ $filename
else
        echo "FILE DOESN'T EXIST!"
fi
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ls
c1.png  c3.png  c5.png     o1.png  o3.png  q1.sh  q3.sh  q5.sh
c2.png  c4.png  file1.txt  o2.png  o4.png  q2.sh  q4.sh  q6.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ cat file1.txt
1.hey boi!

2.have some fun

3.i'm beggin`

4.beggin` you, so put your loving hands out baby

5.sweet dreams are made up this

6.who am i to disagree

7.i travel the world and seven seas

8.some of them want to use you

brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q5.sh
ENTER FILE NAME : file1.txt
TOTAL NUMBER OF BLANK LINES : 8
```

6) A shell script, which reports the names and sizes of all the files in a directory whose size exceeds 1000 bytes, in descending order of their sizes and the total number of such files.

```
  GNU nano 4.8                          q6.sh
#question 6

echo -e "ENTER DIRECTORY : \c"
read dirname
if [ -d $dirname ]
then
        find $dirname -type f -size +1000c -exec du -h {} \; | sort -rh
        echo -e "NUMBER OF SUCH FILES : \c"
        find $dirname -type f -size +1000c | wc -l
fi
```

```
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ls -l
total 564
-rw-rw-r-- 1 brijesh brijesh 70605 Aug 17 23:28 c1.png
-rw-rw-r-- 1 brijesh brijesh 28920 Aug 17 23:30 c2.png
-rw-rw-r-- 1 brijesh brijesh 59875 Aug 17 23:41 c3.png
-rw-rw-r-- 1 brijesh brijesh 25043 Aug 17 23:42 c4.png
-rw-rw-r-- 1 brijesh brijesh 29806 Aug 17 23:46 c5.png
-rw-rw-r-- 1 brijesh brijesh   220 Aug 17 23:46 file1.txt
-rw-rw-r-- 1 brijesh brijesh 82018 Aug 17 23:28 o1.png
-rw-rw-r-- 1 brijesh brijesh 85689 Aug 17 23:30 o2.png
-rw-rw-r-- 1 brijesh brijesh 16131 Aug 17 23:41 o3.png
-rw-rw-r-- 1 brijesh brijesh 42157 Aug 17 23:43 o4.png
-rw-rw-r-- 1 brijesh brijesh 82388 Aug 17 23:47 o5.png
-rwxrwxrwx 1 brijesh brijesh   497 Aug 17 23:27 q1.sh
-rwxrwxrwx 1 brijesh brijesh   173 Aug 17 23:29 q2.sh
-rwxrwxrwx 1 brijesh brijesh   451 Aug 17 23:41 q3.sh
-rwxrwxrwx 1 brijesh brijesh   141 Aug 17 23:41 q4.sh
-rwxrwxrwx 1 brijesh brijesh   185 Aug 17 23:43 q5.sh
-rwxrwxrwx 1 brijesh brijesh   230 Aug 17 23:47 q6.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/os/OS-ASSIGN-03$ ./q6.sh
ENTER DIRECTORY :
84K     ./o5.png
84K     ./o2.png
84K     ./o1.png
72K     ./c1.png
60K     ./c3.png
44K     ./o4.png
32K     ./c5.png
32K     ./c2.png
28K     ./c4.png
16K     ./o3.png
4.0K    ./.q6.sh.swp
NUMBER OF SUCH FILES : 11
```