U18CO018
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Assignment – 3
Operating System

1-> Write a shell script, which finds the prime factors of a given number.
Code:-

```
read -p $'Enter a number\n' num
for (( i = 2; i <= "$num"; i++))
do
    if (("$num" % "$i" == 0)) && (("$num" > 0))
    then
        echo "$i"
        while (("$num" % "$i" == 0)) && (("$num" > 0))
        do
            num="$(($num/$i))"
        done
    fi
done
```

Output:-

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

D:\linux\Assignment3>bash 1.sh
Enter a number
24
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
Code:-

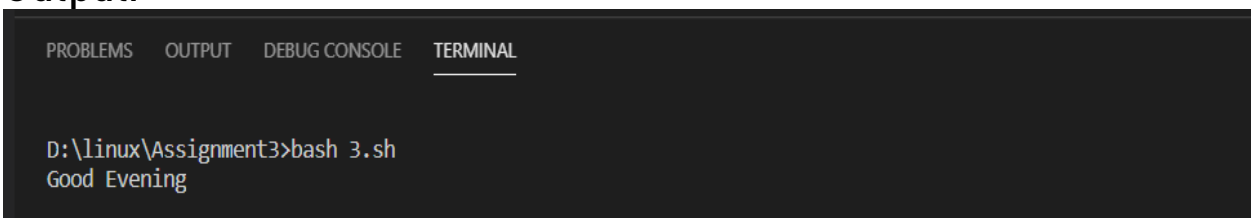
```
read -p "Enter a positive integer: " num
li=()
for (( i = 1; i <= "$num"; i++ )); do
    if [[ "$num"%"$i" -eq 0 ]]; then
        li+=($i)
    fi
done
echo -n "The divisors of $num are: "
echo "${li[@]}" | tr ' ' ,
```

Output:-

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

```
t=$(date +%T)
if [[ "$t" > "16:00:00" ]]; then
    echo "Good Evening"
else
    echo "Good Morning"
fi
```

Output:-



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.
Code:-

```
for (( i = 0; i < "$1"; i++ )); do
    echo "$2"
done
```

Output:-

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

D:\linux\Assignment3>bash 4.sh 5 Assignment
Assignment
Assignment
Assignment
Assignment
Assignment
```

5-> Write a shell script, which finds the total number of blank lines in the given file.
Code:-

```
echo 'Enter file name'
read file
grep -cvP '\S' $file
```

Output:-

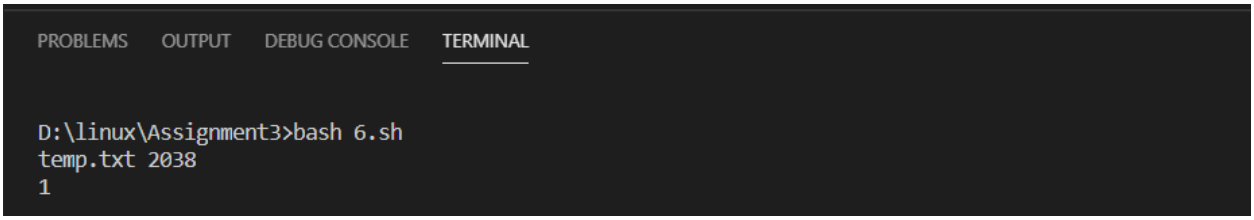
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

D:\linux\Assignment3>bash 5.sh
Enter file name
temp.txt
2
```

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.
Code:-

```
ls -l | awk '$5 >= 1000 {print $9,$5}' | sort -k 2 -nr| tee >(wc -l)
```

Output:-


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
D:\linux\Assignment3>bash 6.sh
temp.txt 2038
1