EXPERIMENT NO:6 **DATE:**

SHELL SCRIPT PROGRAM QUESTIONS

1. Write a script to show current date, time and current directory.

SOURCE CODE:

```
#!/bin/bash
echo "Hello,$LOGNAME"
echo "Current date is `date`"
echo "User is `whoami`"
echo "current directory `pwd`"
```

OUTPUT:

2. Write a script to reverse of a number.

SOURCE CODE:

```
#!/bin/bash
read -p "Enter a number: " number
temp=$number
while [ $temp -ne 0 ]
do
   reverse=$reverse$((temp%10))
   temp=$((temp/10))
done
echo "Reverse of $number is $reverse"
```

OUTPUT:

3. Write a script to largest among three numbers.

SOURCE CODE:

```
#!/bin/bash
echo "Enter 1st number:"
read first_num
echo "Enter 2nd number:"
read second_num
echo "Enter 3rd number:"
read third_num
if test $first_num -gt $second_num && test $first_num -gt $third_num
then
        echo $first_num is the greatest number.
elif test $second_num -gt $third_num
then
        echo $second_num is the greaatest number.
else
        echo $third_num is the greatest number.
fi
```

OUTPUT:

4. Write a script check whether the number is Armstrong or not.

SOURCE CODE:

```
#!/bin/bash
echo "Enter a number: "
read c
x=$c
sum=0
r=0
n=0
while [ $x -gt 0 ]
do
r=`expr $x % 10`
n=`expr $r \* $r \* $r`
sum=`expr $sum + $n`
x=`expr $x / 10`
done
if [ $sum -eq $c ]
```

```
then
echo "It is an Armstrong Number."
else
echo "It is not an Armstrong Number."
fi
```

OUTPUT:

5. Write a script to check password and login

SOURCE CODE:

```
#!/bin/bash
read -p 'Username: ' user
read -sp 'Password: ' pass
if (( $user == "admin" && $pass == "admin123" ))
then
        echo -e "\nWelcome! You are Sucessfull login\n"
else
        echo -e "\nUnsuccessful login\n"
fi
```

OUTPUT:

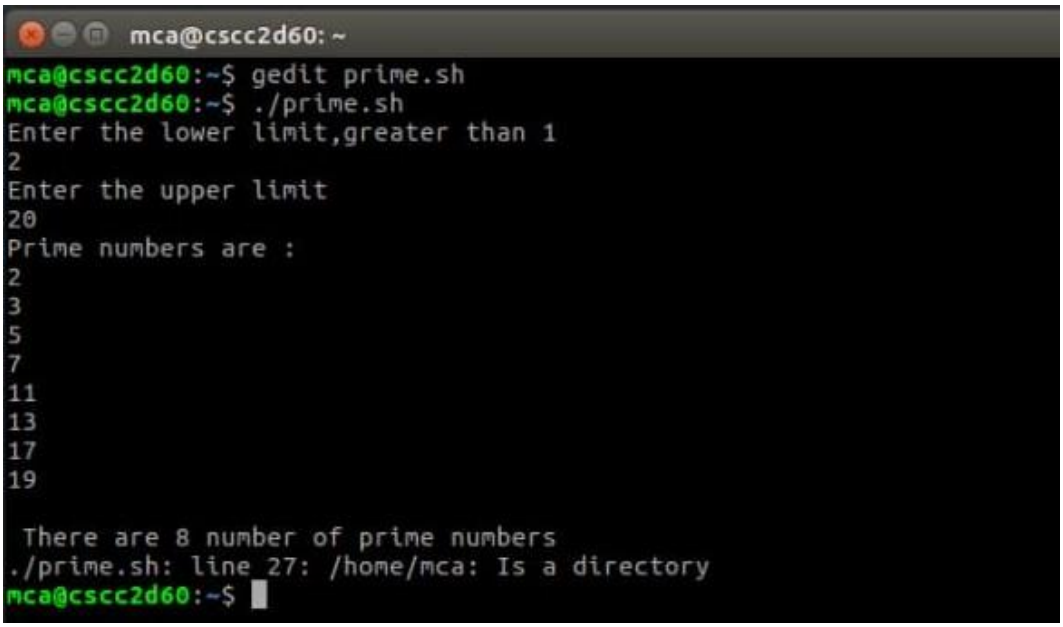
6. Write a script to count the prime numbers in specific range.

SOURCE CODE:

```
#! /bin/bash
low=1
count=0
while [ $low -eq 1 ]
do
echo "Enter the lower limit,greater than 1"
```

```
read low
done
echo "Enter the upper limit"
read upper
echo "Prime numbers are : "
for mun in `seq $low $upper`
do
ret=$(factor $mun | grep $mun | cut -d ":" -f 2 | cut -d " " -f 2)
if [ "$ret" -eq "$mun" ]
then
echo "$mun"
((count++))
fi
done
echo -e "\n There are $count number of prime numbers"
```

OUTPUT:



7. Write a script to convert the contents of a given file from uppercase to lowercase and also count the number of lines, words and characters of the resultant file. Also display the resultant file in descending order.

SOURCE CODE:

```
#!/bin/bash
getfile()
{
echo "enter the filename"
read filename
if [ ! -f $filename ]; then
        echo "File Name $filename does not exists."
```

```
        exit 1
    fi
}
clear
getfile
echo "Converting Upper-case to Lower-Case "
tr '[A-Z]' '[a-z]' <$filename
echo "the number of lines is:"
wc -l <$filename
echo "the number of words are:"
wc -w <$filename
echo "the number of characters are:"
wc -c <$filename
echo "the contend in descending order:"
sort -r <$filename
```

OUTPUT:

8. Write a script to perform following basic math operation as: Addition, subtraction, multiplication, division

SOURCE CODE:

```
echo "Enter a number : "
read x
echo "Enter another number : "
read y
echo "ADDITION"
echo $(( $x + $y ))
echo "SUBTRACTION"
echo $(( $x - $y ))
echo "MULTIPLICATION"
echo $(( $x * $y ))
echo "DIVISION"
echo $(( $x / $y ))
```

OUTPUT:

9. Read 3 marks of a student and find the average. Display the grade of the student based on the average. (if..then..elif..fi)

   S >= 90%
   A < 90%, but >= 80%
   B < 80%, but >= 60%
   P < 80%, but >= 40%
   F < 40%

SOURCE CODE:

```
#!/bin/bash
echo "Enter the first mark: "
read mark1
echo "Enter the second mark: "
read mark2
echo "Enter the third mark: "
read mark3
average=$((($mark1 + $mark2 + $mark3) / 3))
if [ $average -ge 90 ]; then
  echo "Grade: S"
elif [ $average -ge 80 ]; then
  echo "Grade: A"
elif [ $average -ge 60 ]; then
  echo "Grade: B"
elif [ $average -ge 40 ]; then
  echo "Grade: P"
else
  echo "Grade:F"
fi
```

OUTPUT:

10. Read the name of an Indian state and display the main language according to the table.For other states, the output may be “Unknown”. Use “|” to separate states with same language (case..esac).

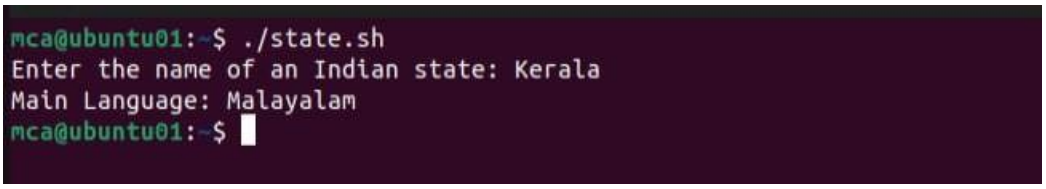
State	Main Language
Andhra Pradesh	Telugu
Assam	Assamese
Bihar	Hindi
Himachal Pradesh	Hindi
Karnataka	Kannada
Kerala	Malayalam
Lakshadweep	Malayalam
Tamil Nadu	Tamil

SOURCE CODE:

```
#!/bin/bash
read -p "Enter the name of an Indian state: " state
case $state in
   "Andhra Pradesh")
      echo "Main Language: Telugu"
      ;;
   "Assam")
      echo "Main Language: Assamese"
      ;;
   "Bihar")
      echo "Main Language: Hindi"
      ;;
   "Himachal Pradesh")
      echo "Main Language: Hindi"
      ;;
   "Karnataka")
      echo "Main Language: Kannada"
      ;;
   "Kerala")
      echo "Main Language: Malayalam"
      ;;
   "Lakshadweep")
      echo "Main Language: Malayalam"
      ;;
```

```
    "Tamil Nadu")
        echo "Main Language: Tamil"
        ;;
    *)
        echo "Unknown"
        ;;
esac
```

OUTPUT:



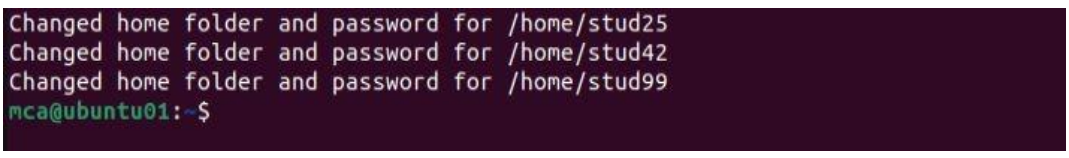
11. Change the home folder of all users whose name start with stud from /home/username to /usr/username. Also change the password of username to username123 (e.g., /home/stud25 changes to /usr/stud25 and his/her password changes to stud25123) - (Use for .. in)

SOURCE CODE:

```
#!/bin/bash
for username in /home/stud*;
do
   if [ -d "$username" ]; then
      new_home="/usr${username#/home}"
      new_password="${username#/home/stud}"
      new_password="${new_password}123"

      usermod -d "$new_home" "$username"
      echo "$username:$new_password" | chpasswd
      echo "Changed home folder and password for $username"
 fi
done
```

OUTPUT:

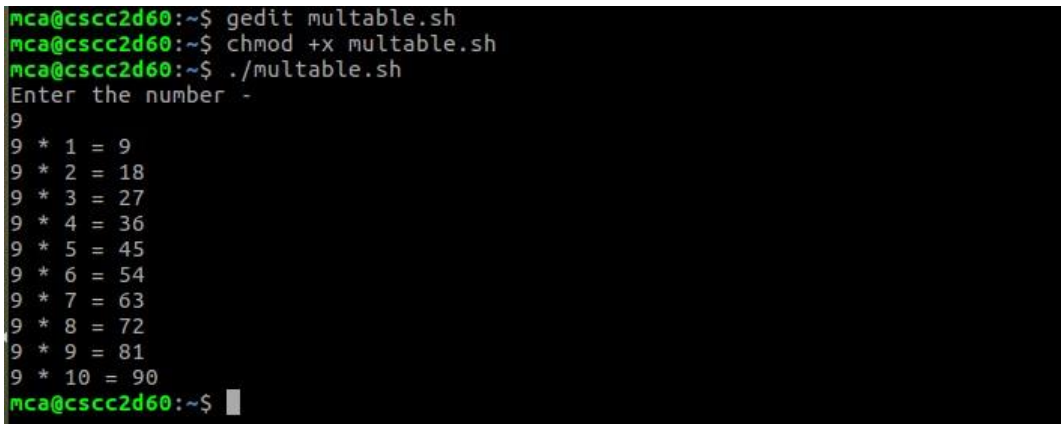


12. Read a number and display the multiplication table of the number up to 10 lines. -(Use for((..)))

SOURCE CODE:

```
#!/bin/bash
echo "Enter the number -"
read n
i=1
while [ $i -le 10 ]
do
res=`expr $i \* $n`
echo "$n * $i = $res"
((++i))
done
```

OUTPUT:



13. Read a Decimal number. Convert it to Binary and display the result. -(Use while)

SOURCE CODE:

```
echo "enter a number : "
read n
c=$(echo "obase=2;$n" | bc)
echo binary $c
```

OUTPUT: