EXERCISE 2: SHELL SCRIPTING

HARSH AGARWAL (181IT117)

1)Write a shell script program to display “HELLO WORLD”

```
# !/bin/bash
echo “Hello World”
```

Output: Hello World

2)Write a shell script program to develop a scientific calculator.

```
# !/bin/bash

echo "Enter the numbers : "
read x
read y

echo "Select your Choice :"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
echo “5. Power”
echo “6. Sin of 1st Number”
echo “7. Cos of 1st Number”
echo “8.Log of 1st Number”
echo “9. Exponent of 1st Number”
read ch

case $ch in
        1)res=`echo $a + $b | bc`
        ;;
        2)res=`echo $a - $b | bc`
        ;;
        3)res=`echo $a \* $b | bc`
        ;;
        4)res=`echo "scale=2; $a / $b" | bc`
        ;;
        5)res=`echo $a ^ $b | bc`
        ;;
        6)res=`echo s($a) | bc`
        ;;
        7)res=`echo c($a) | bc`
```

```
        ;;
        8)res=`echo l($a) | bc`
        ;;
        9)res=`echo e($a) | bc`
        ;;
esac

echo "Result is : $res"
```

3)Write a shell script program to check whether the given number is even or odd.

```
# !/bin/bash
echo "Enter a Number to Check:"
read a

rem=$(( $a % 2 ))

if [ $rem -eq 0 ]
then
        echo "Number $a is even"
else
        echo "Number $a is odd"
fi
```

4)Write a shell script Program to search whether element is present in the list or not.

```
#!/bin/bash
list=(1 2 3 2 5 7 9 5)
echo "Enter the number to find in the given array"
read findthis

for item in ${list[*]}
do
   test "$item" == "$findthis" && { echo "$findthis found!"; break; }
done
```

5)Write a shell script program to check whether given file is a directory or not

```
#! /bin/sh
echo "Enter the file name"
```

```
read x
if [ -f $x ]
then
        echo "This is a regular file"
else
        echo "This is a directory"
fi
```

6)Write a shell script program to count the number of files in a Directory.

```
#! /bin/sh
cd '/home'

file=0
dir=0
for d in *;
do
if [ -d "$d" ]; then
                dir=$((dir+1))
        elif [ -f "$d" ]; then
                 file=$((file+1))

        fi
done
echo "Number of Files: $file"
echo "Number of Directories: $dir"
```

7)Write a shell script program to copy the contents of one file to another.

```
#! /bin/sh
echo "Enter the name of the file to be copied : "
read filename1
echo "Enter the name of the file to be copied into : "
read filename2
cp “$filename1” “$filename2”
```

8)Use a pipeline and command substitution to set the length of a line in file to a variable. Write a program using sed command to print duplicate lines of Input.

```
#! /bin/sh

echo "Enter the name of the file  : "
read filename
echo “The duplicate lines in the file are: “
sort $filename | sed '$!N; s/^\(.*\)\n\1$/\1/; t; D'
```

9)Write a shell script that accept a file name starting and ending line numbers as arguments and display all the lines between given line no

```
#! /bin/sh
echo "enter the filename"
read fname
echo "enter the starting line number"
read s
echo "enter the ending line number"
read n
sed -n $s,$n\p $fname | cat > newline
cat newline
```

10)Write a shell script that delete all lines containing a specified word

```
#! /bin/sh
echo "Enter the filename: "
read filename
echo "Enter the word to be deleted : "
read word
sed 's/$word//g' $filename > $filename
```

11)Write a shell script that displays a list of all the files in the current directory

```
#! /bin/sh
ls -l
```

12)Write a shell script that receives any number of filenames as arguments checks if every argument supplied is a file or a directory and reports accordingly whenever the argument is a file or directory.

```
#!/bin/bash
echo "Enter a name"
read PASSED
if [[ -d $PASSED ]]; then
        echo "$PASSED is a directory"
elif [[ -f $PASSED ]]; then
        echo "$PASSED is a file"
else
        echo "$PASSED is not valid"
        exit 1
fi
```

13)Write a shell script that accept a list of file names as arguments count and report the occurrence of each word.

```
# !/bin/sh
echo "Enter a file name to get word frequency and type exit to quit"
while read line
do
   if [ "$line" = "exit" ]
   then break
   else
      echo "Words in $line"
      cat $line|tr -d '[:punct:]'|tr '[:upper:]' '[:lower:]'|tr -s ' ' '\n'|sort|uniq -c|sort -rn
   fi
done
```

14)Write a shell script to find the factorial of a given integer

```
#! /bin/sh
echo "Enter a number : "
read num
fact=1
while [ $num -gt 1 ]
do
   fact=$(( fact * num ))
   num=$((num-1))
done
echo "$fact is the factorial"
```

15)Write a shell script to guess the number. In a given range, your program chooses a random number and allow the user to guess the number

```
#! /bin/sh
echo "Enter a number : "
read num
rand=$(( ( RANDOM % 10 )  + 1 ))
if [ $rand -eq $num ]
then
   echo "Correct"
else
   echo "Wrong"
fi
```