NEHAL JHAJHARIA (U20CS093)

OPERATING SYSTEM

ASSIGNMENT 02

1

```bash
#!/bin/bash

echo -n "Enter a character : "
char=""
read char

case $char in
    "a") echo "lower vowel";;
    "b") echo "lower vowel";;
    "c") echo "lower vowel";;
    "d") echo "lower vowel";;
    "e") echo "lower vowel";;
    "A") echo "UPPER vowel";;
    "B") echo "UPPER vowel";;
    "C") echo "UPPER vowel";;
    "D") echo "UPPER vowel";;
    "E") echo "UPPER vowel";;
    *) if [ -z $(echo $char | sed -e 's/[a-z]//g') ]
                then echo "lower character"
        elif [ -z $(echo $char | sed -e 's/[A-Z]//g') ]
                then echo "UPPER character"
        elif [ -z $(echo $char | sed -e 's/[0-9]//g') ]
```

```bash
            then echo "Digit"
        else echo "Special Character"
    fi;;
esac
```

2
```bash
#!/bin/bash

choice=""
echo "Choose an option as - "
echo "1 - Number of users logged in"
echo "2 - Print the calendar for current year"
echo "3 - Print the date"

read choice

case $choice in
    "1") who --count | grep users;;
    "2") cal 2022;;
    "3") date;;
    *) echo "Not a valid option!!";;
esac
```

3
```bash
#!/bin/bash

checkIfDirectory() {
    if [ -d $1 ]
```

```bash
    then echo "Directory"
    else echo "Not a directory"
    fi
}

checkIfDirectory "A2_3.sh"
checkIfDirectory "Directory"
checkIfDirectory "Ass2"
```

4
```bash
#!/bin/bash

ls wc | -l
```
5
```bash
#!/bin/bash
cp A2_2.sh A2_5.sh
```

6
```bash
#!/bin/bash

read -p "Enter first number : " num1
read -p "Enter second number : " num2

sum=`expr $num1 + $num2`
echo "Sum is : $sum"
```

7
```bash
#!/bin/bash
```

```bash
read -p "Num1 : " num1
read -p "Num2 : " num2
read -p "Num3 : " num3

if test $num2 -gt $num1
then num1=$num2
fi
if test $num3 -gt $num1
then num1=$num3
fi
echo "Max num : $num1"
```

8
```bash
#!/bin/bash

read -p "a : " a
read -p "operation : " oper
read -p "b : " b

case $oper in
    "+") echo "$(($a + $b))";;
    "-") echo "$(($a - $b))";;
    "*") echo "$(($a * $b))";;
    "/") echo "$(($a / $b))";;
    *) echo "Operation not supported";;
esac
```

9

```bash
#!/bin/bash

read -p "Enter last number : " cap
while [ $cap -gt 0 ]
do
    echo -n "$cap  "
    cap=$(($cap - 1))
done
echo ""
```

10

```bash
#!/bin/bash

read -p "a : " a
read -p "operation : " oper
read -p "b : " b

case $oper in
    "+") echo "$(($a + $b))";;
    "-") echo "$(($a - $b))";;
    "*") echo "$(($a * $b))";;
    "/") echo "$(($a / $b))";;
    *) echo "Operation not supported";;
esac
```

11

```bash
#!/bin/bash
```

```bash
read -p "Enter a number : " num
rev=0

while [ $num -gt 0 ]
do
   rem=$(( $num % 10 ))
   rev=$(( $rev * 10 + $rem ))
   num=$(( $num / 10 ))
done
echo "Reverse : $rev"
```

12

```bash
#!/bin/bash

read -p "Enter a number : " num
sum=0

while [ $num -gt 0 ]
do
   rem=$(( $num % 10 ))
   sum=$(( $sum + $rem ))
   num=$(( $num / 10 ))
done
echo "Sum of digits : $sum"
```

13

```bash
#!/bin/bash
```

```bash
read -p "Enter a number : " num

fact=1


i=2

while [ $i -le $num ]

do

    fact=$(( $fact * $i ))

    i=$(( $i + 1 ))

done

echo "Factorial of $num = $fact"
```

14

```bash
#!/bin/bash


read -p "Enter a number : " num

p=0

q=1

fib=1

i=2

while [ $i -le $num ]

do

    echo -n "$fib  "

    fib=$(( $p + $q ))

    p=$q

    q=$fib

    i=$(( $i + 1 ))

done
```

```bash
echo "$fib"
```

15

```bash
#!/bin/bash
echo "For [a, b]"
read -p "a : " a
read -p "b : " b

while [ $a -le $b ]
do
   rem=$(( $a % 2 ))
   if [ $rem -eq 0 ]
   then echo -n "$a  "
   fi
   a=$(( $a + 1 ))
done
echo ""
```

16

```bash
#!/bin/bash

file="/file.txt"

words=`wc --word < $file`
lines=`wc --lines < $file`

echo "$words"
echo "$lines"
```