PRACTICAL – 3

1. Write a shell script to calculate the loss percentage of an article. Scan the cost price and selling price

```
echo "Enter the cost price: "
read cost_price
echo "Enter the selling price: "
read selling_price


if (( $selling_price < $cost_price ));
 then
  loss=$(( $cost_price - $selling_price ))
  loss_percent=$(( $loss * 100 / $cost_price ))
  echo "You made a loss of $loss_percent%."
elif (( $selling_price > $cost_price ));
 then
  profit=$(( $selling_price - $cost_price ))
  profit_percent=$(( $profit * 100 / $cost_price ))
  echo "You made a profit of $profit_percent%."
else
  echo "You broke even."
fi


Enter the cost price:
54
Enter the selling price:
64
You made a profit of 18%.
```

2. Write a shell script to accept numbers below 50 and to display the square of each. This should continue as long as the user wishes.

```
while true;
do

  echo "Enter a number below 50 (or enter q to quit): "
  read input


  if [ "$input" == "q" ]; then
    break
  fi


  if ! [[ "$input" =~ ^[0-9]+$ ]] || (( input >= 50 )); then
    echo "Invalid input. Please enter a number below 50."
    continue
  fi


  square=$(( input * input ))
  echo "The square of $input is $square."
done
```

```
21012021003@telnetserver:~$ ./pr3.2
Enter a number below 50 (or enter q to quit):
23
The square of 23 is 529.
Enter a number below 50 (or enter q to quit):
49
The square of 49 is 2401.
Enter a number below 50 (or enter q to quit):
q
```

3. Write a shell script to display $50

```
echo '$50'
```

```
21012021003@telnetserver:~$ chmod +x pr3.3
21012021003@telnetserver:~$ ./pr3.3
$50
```

4. Write a shell script to check whether the scanned string is found in a file or not. Display appropriate message.

```
echo "Enter the filename to search: "
read filename


if [ ! -f "$filename" ]; then
  echo "File not found."
  exit 1
fi


echo "Enter the search string: "
read search_string


if grep -q "$search_string" "$filename"; then
  echo "The string '$search_string' was found in '$filename'."
else
  echo "The string '$search_string' was not found in '$filename'."
fi
```

```
21012021003@telnetserver:~$ chmod +x pr3.4
21012021003@telnetserver:~$ ./pr3.4
Enter the filename to search:
pr2
Enter the search string:
Amit
The string 'Amit' was not found in 'pr2'.
```

5. Write a shell script, which scans the name of the command and executes it.

```
echo "Enter the name of the command to execute: "
read command_name


if ! command -v "$command_name" &> /dev/null; then
  echo "Command not found: $command_name"
  exit 1
fi


"$command_name"
```

```
21012021003@telnetserver:~$ chmod +x pr3.5
21012021003@telnetserver:~$ ./pr3.5
Enter the name of the command to execute:
ls
A1  abc.txt  pr2  pr3  pr3.1_ pr3.2  pr3.3  pr3.4  pr3.5  pr4
```

6. Write a shell script which displays January if we enter Jan, Janu, Janua or January.

```
echo "Enter a month name: "
read month_name

case "$month_name" in
  "Jan" | "Janu" | "Janua" | "January")
    echo "January"
    ;;
  *)
    echo "Month not recognized."
    exit 1
    ;;
esac
21012021003@telnetserver:~$ ./pr3.6
Enter a month name:
Jan
January
```

7. Write a shell script to generate Fibonacci series.

```
echo "Enter the number of terms to generate: "
read n


a=0
b=1


echo "Fibonacci series:"
echo "$a"
echo "$b"

for ((i=2; i<n; i++))
do
  c=$((a + b))
  echo "$c"
  a=$b
  b=$c
done
```

```
21012021003@telnetserver:~$ chmod +x pr3.7
21012021003@telnetserver:~$ ./pr3.7
Enter the number of terms to generate:
11
Fibonacci series:
0
1
1
2
3
5
8
13
21
34
55
```