PRACTICAL NO 2

a) Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.

Code :

```
def VovelConsonant(UserCharacter):
    Vovels = ['a','e','i','o','u']
    if UserCharacter.lower() in Vovels :
        return True
    else :
        return False

Iterator = 0
while Iterator ==0 :
    UserCharacter = input("Enter the Character : ")
    if len(UserCharacter) == 1 :
        if UserCharacter.isalpha() :
            if VovelConsonant(UserCharacter) :
                print(f"True : your entered character {UserCharacter}
                is a vovel")
                Iterator = 1
            else :
                print(f"False : your entered character
                {UserCharacter} is a consonant")
                Iterator = 1
        else :
            print("Please enter character only!")
    else :
        print("Please enter character only!")
```

Output :

```
Enter the Character : 12
Please enter character only!
Enter the Character : aa
Please enter character only!
Enter the Character : 1
Please enter character only!
Enter the Character : a
True : your entered character a is a vovel
```

b) Define a function that computes the length of a given list or string.

Code :

```
def LengthCount(sr):
    Count=0
    if sr==1 :
        for i in String :
            Count=Count+1
    elif sr==2 :
        for i in li :
            Count=Count+1
    return Count

n=1
li=[]
String=""
while n==1 :
    print(" 1 | String")
    print(" 2 | List")
    UserInput=int(input(">>>  Enter : "))
    print("")
    match UserInput :
        case 1 :
            String=input("Enter Your String : ")
            print(f"Length of the Entered string is {LengthCount(1)}")
        case 2 :
            Size=int(input("Enter the size of list : "))
            for x in range(Size) :
                  ListElement=int(input(f"Enter Element [{x+1}] : "))
                  li.append(ListElement)
            print(f"Length of the Entered List is {LengthCount(2)}")
    print("")
    n=int(input("Do you want to continue ? [1|Yes  2|No] : "))
```

Output :

```
 1 | String
 2 | List
>>>  Enter : 1

Enter Your String : I am Yashodip
Length of the Entered string is 13

Do you want to continue ? [1|Yes  2|No] : 1
 1 | String
 2 | List
>>>  Enter : 2

Enter the size of list : 5
Enter Element [1] : 10
Enter Element [2] : 80
Enter Element [3] : 30
Enter Element [4] : 40
Enter Element [5] : 60
Length of the Entered List is 5

Do you want to continue ? [1|Yes  2|No] : 2
```

c) Define a procedure histogram() that takes a list of integers and prints a histogram to the screen. For example, histogram([4, 9, 7, 2, 5]) should print the following:

▨▨▨▨
▨▨▨▨▨▨▨▨▨
▨▨▨▨▨▨▨
▨▨
▨▨▨▨▨

Code :

```
def histogram():
    print()
    print("Histogram")
    for x in Li :
        print(f" {x} | {'▨'*x}")

Li=[]
Size=int(input("Enter the Number of columns in histograms : "))
for x in range(Size) :
    ColumnsValue = int(input(f"Enter the value of column [{x+1}] :
    "))
    Li.append(ColumnsValue)
histogram()
```

Output :

```
Enter the Number of columns in histograms : 5
Enter the value of column [1] : 4
Enter the value of column [2] : 9
Enter the value of column [3] : 7
Enter the value of column [4] : 2
Enter the value of column [5] : 5

Histogram ::
 4 | ▨▨▨▨
 9 | ▨▨▨▨▨▨▨▨▨
 7 | ▨▨▨▨▨▨▨
 2 | ▨▨
 5 | ▨▨▨▨▨
```