Department of Electrical Engineering
Mid – Term Assignment Spring 2020
Date: 25/06/2020

Course Details

Course Title: Programming Fundamentals   **Module:** 02

Instructor: sir waqas   **Total Marks:** 50

Student Details

Name: Bilal   **Student ID:** 16434

Q1.	(a)	Write Python code that asks the user for two integer values, it must then add the largest number times the smallest. The output should be in the following manner.
		
		    Enter Number 1 : 5
		    Enter Number 2 : 3
		    Answer = 5+5+5 = 15
			Marks 5
			CLO 1

	(b)	You are asked to make a times table program in Python where a user will enter starting value, ending value and the value to find the times table for. For example Input Starting Value : 2 Input Ending Value : 4 Input Times Table : 4 4 x 2 = 8 4 x 3 = 12 4 x 4 = 16	Marks 5 CLO 1

Q2.	(a)	Write programs in Python to make the following shapes using LOOPS,
		
		a) ******
		      ******
		      ******
		
		b) *
		      **
		      ***
		      ****
		      *****
			Marks 14
			CLO 1

Q3.	(a)	Write a program in Python where a user is asked for 10 numbers, each number must be shown as ODD or EVEN respectively.	Marks 3 CLO 1

	(b)	You have the following python code, draw the flow chart of the whole code
		nterms = int(input("How many terms? "))
		n1, n2 = 0, 1
		count = 0
		if nterms <= 0:
		  print("Please enter a positive integer")
		elif nterms == 1:
		  print("Fibonacci sequence upto",nterms,":")
		  print(n1)
		else:
		  print("Fibonacci sequence:")
		  while count < nterms:
		    print(n1)
		    nth = n1 + n2
		    n1 = n2
		    n2 = nth
			Marks 3
			CLO 1

| | | count += 1 | |

File   Edit   Format   Run   Options   Window   He

```python
#Q 1. Part (a)
a = int(input("Enter number 1: "))
b= int(input("Enter number 2: "))

sum = 0
if a>b:
    for x in range(b):
        sum=a+sum

    print("Answer: ", sum)
else:
    for x in range(a):
        sum=b+sum

    print("Answer:", sum)
```

File   Edit   Shell   Debug   Options   Window

```
Python 3.8.3rc1 (tags/v3.8.3rc1
it (AMD64)] on win32
Type "help", "copyright", "credi
>>>
==== RESTART: C:/Users/PUBG PC/A
Enter number 1: 4
Enter number 2: 3
Answer:   12
>>>
```

File   Edit   Format   Run   Options   Window   Help

```python
#Q.1 Part (b)
startNum= int(input("Enter number 1: "))
endNum= int(input("Enter number 2: "))
tableNum= int(input("Enter number 3: "))

for x in range(startNum, endNum+1):
    ans = tableNum*x
    print(tableNum, "x", x, "=", ans)
```

File   Edit   Shell   Debug   Options   Window   Help

```
Python 3.8.3rc1 (tags/v3.8.3rc1:802eb
it (AMD64)] on win32
Type "help", "copyright", "credits" or
>>>
==== RESTART: C:/Users/PUBG PC/AppData
Enter number 1: 3
Enter number 2: 2
Enter number 3: 4
```

File Edit Format Run Options Window Help

```python
#Q NO 2
#ANs
rows = int(input("Please Enter the Total Number of Rows  : "))
columns = int(input("Please Enter the Total Number of Columns  : "))

print("Rectangle Star Pattern")
for i in range(rows):
    for j in range(columns):
        print('*', end = ' ')
    print()
```
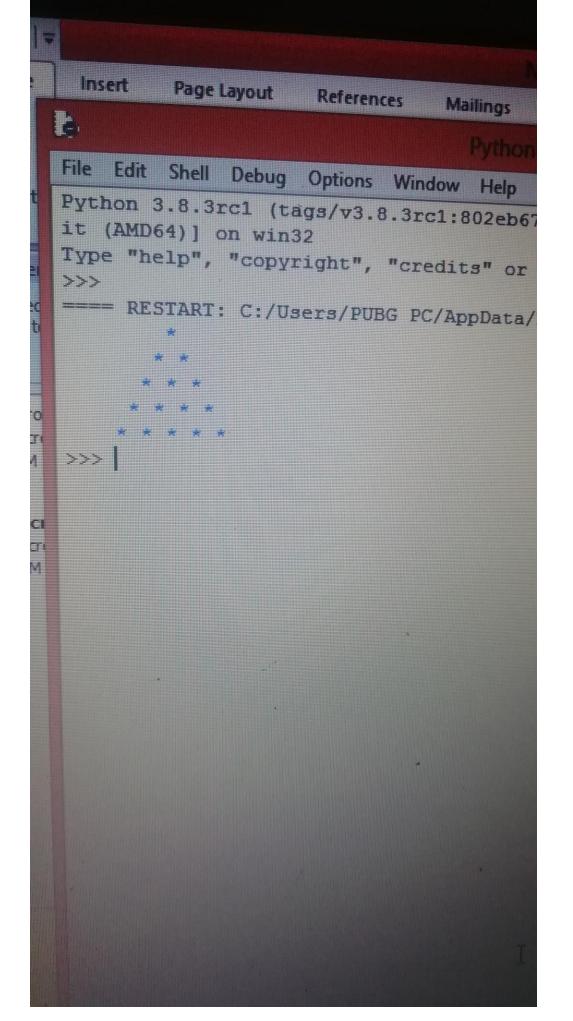
Options Window Help

```
Python 3.8.3rc1 (tags/v3.8.3rc1:802eb67, Apr 29 2020, 21:39:14) [MSC v.1924 64
it (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: C:/Users/PUBG PC/AppData/Local/Programs/Python/Python38/gf.py ==
Please Enter the Total Number of Rows  : 3
Please Enter the Total Number of Columns  : 6
Rectangle Star Pattern
* * * * * *
* * * * * *
* * * * * *
>>> |
```

```python
#Qno 2 :part b
#ANS:
def triangle(n):

    # number of spaces
    k = 2*n - 2

    # outer loop to handle number of rows
    for i in range(0, n):

        for j in range(0, k):
            print(end=" ")

        # decrementing k after each loop
        k = k - 1

        for j in range(0, i+1):

            # printing stars
            print("* ", end="")

        # ending line after each row
        print("\r")

# Driver Code
n = 5
triangle(n)
```

Python

File Edit Shell Debug Options Window Help

```
Python 3.8.3rc1 (tags/v3.8.3rc1:802eb67
it (AMD64)] on win32
Type "help", "copyright", "credits" or
>>>
==== RESTART: C:/Users/PUBG PC/AppData/
          *
        *  *
      *   *   *
    *   *   *   *
  *   *   *   *   *
>>> |
```

*gf.py - C:/Users/PUBG PC/AppData/Local/Programs/

File   Edit   Format   Run   Options   Window   Help

```
#Q no 3 (a) :
#ANS:

a=[]
n=int(input("Enter number of elements:"))
for i in range(1,n+1):
    b=int(input("Enter element:"))
    a.append(b)
even=[]
odd=[]
for j in a:
    if(j%2==0):
        even.append(j)
    else:
        odd.append(j)
print("The even list",even)
print("The odd list",odd)
```

File   Edit   Shell   Debug   Options   Window   Help

```
Python 3.8.3rc1 (tags/v3.8.3rc1:802eb67,
it (AMD64)] on win32
Type "help", "copyright", "credits" or "]
>>>
==== RESTART: C:/Users/PUBG PC/AppData/Lc
Enter number of elements:10
Enter element:4
Enter element:9
Enter element:76
Enter element:456
Enter element:76
Enter element:8
Enter element:3
Enter element:67
Enter element:6
Enter element:3
The even list [4, 76, 456, 76, 8, 6]
The odd list [9, 3, 67, 3]
>>> |
```

Flow Chart 2:-

```
( nterm = int (input ("how many term?")) )
                    |
                    v
          +------------------+
          | n1, n2 = 0, 1    |
          |   Count = 0      |
          +------------------+
                    |
                    v
            < nterm <= 0 >
             /        |
            /       False
           v          v
    +------------------------------------------+
    | Print ("Plese enter Positive integer")   |
    +------------------------------------------+
                    |
                    v
          +----------------------+
          | elif nterms == 1     |
          +----------------------+
                    |
                    v
          +----------------------------+
          | Print (" Fibonaci Sequence |
          |   upto "nterms, " ")       |
          +----------------------------+
                    |
                    v
          +----------------+
          |  Print (n 1)   |
          +----------------+
                    |
                    v
    +------------------------------------+
    | Print (" Fibonci Sequance: ")      |
    +------------------------------------+
                    |
                    v
            < Count < nterms
              Print (n1)
              nth = n 1 = n J
                 n2 = nth
              Count + = 1 >
```