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

Course Details

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

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

Student Details

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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 = 120	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,":")
			Marks 3

```
       print(n1)
   else:
     print("Fibonacci sequence:")
     while count < nterms:
       print(n1)
       nth = n1 + n2
       n1 = n2
       n2 = nth
       count += 1
```

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.

<div align="center">

Enter Number 1 : 5

Enter Number 2 : 3

Answer = 5+5+5 = 120

</div>

public class my class

  public static void main(string args[]

        int x=7;

        int y=4;

  int sum=0, n=0, n1=0, I;

 if |(y>x) {

 n=x;

 n1=y; }

else {

n=y;

n1=x; }

for (i=0;i<;i++)

{Sum=sum+n;1}

System.out.println(sum is = " +sum}

Q1 (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

Answer (b)
Multiplication table (from 1 to 10) in Python

num = 12

To take input from the user
num = int(input("Display multiplication table of? "))

# Iterate 10 times from i = 1 to 10
for i in range(1, 11):
    print(num, 'x', i, '=', num*i)

Output
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120

Q2 (b)Write programs in Python to make the following shapes using LOOPS,

Answer (b)
Python 3.x code to demonstrate star pattern

# Function to demonstrate printing pattern triangle
def triangle(n):

    # number of spaces
    k = 2*n - 2

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

        # inner loop to handle number spaces
        # values changing acc. to requirement

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

        # decrementing k after each loop
        k = k - 1

        # inner loop to handle number of columns
        # values changing acc. to outer loop
        for j in range(0, i+1):

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

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

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

Output

```
    *
   * *
   * * *
  * * * *
* * * * *
```

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.

numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)

 count_odd = 0

count_even = 0

for x in numbers:

    if not x % 2:

            count_even+=1

    else:

count_odd+=1

print ("Number of even numbers :",count_even)
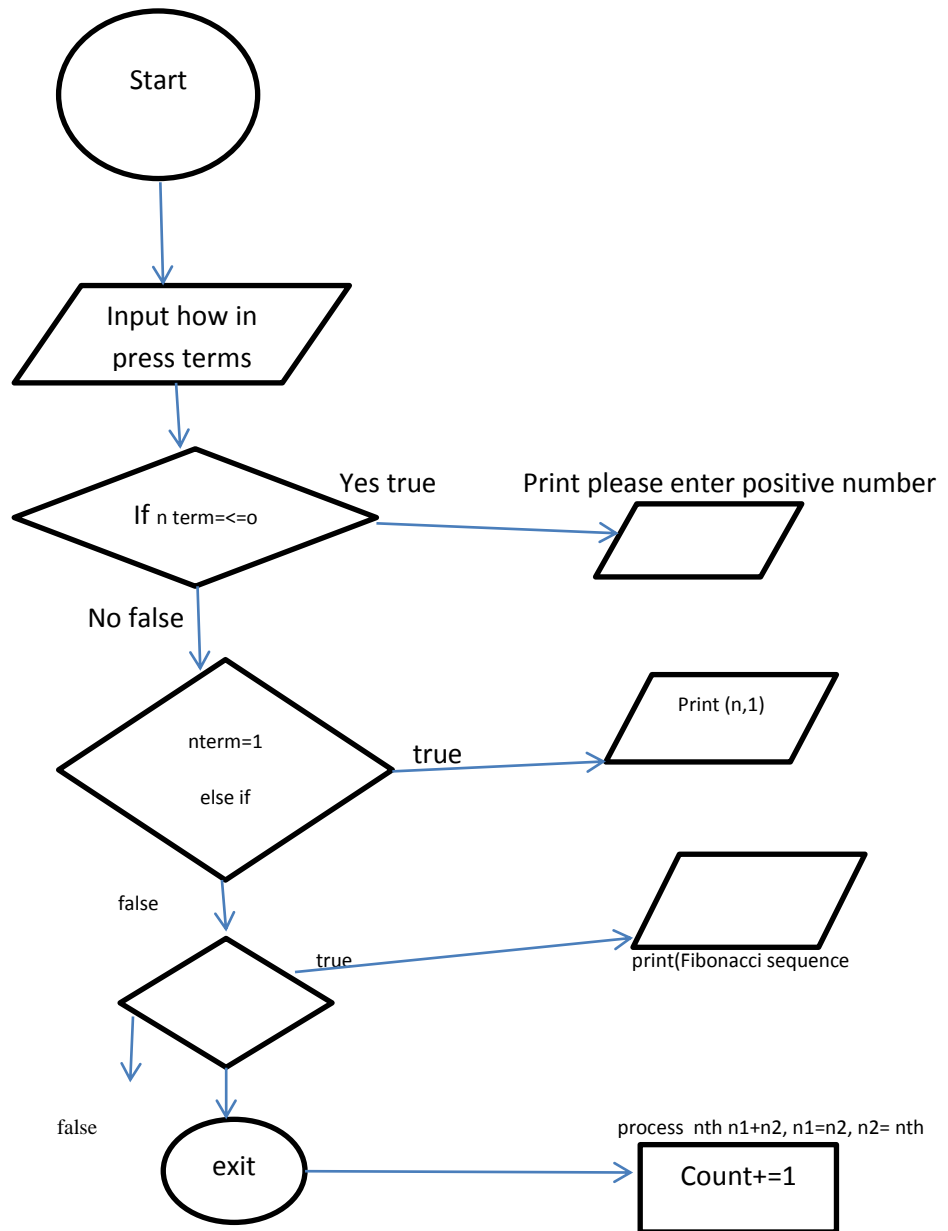
Print ("Number of odd numbers :",count_odd)

Output

Number of even numbers : 4

Number of odd numbers : 5

Q3 (b) flowchart

```
                           Start

                    Input how in
                    press terms

                                        Yes true      Print please enter positive number
              If n term=<=o

              No false

                                           Print (n,1)
                  nterm=1           true
p                 else if

          false
                                   true
                                                      print(Fibonacci sequence

          false
                                                      process nth n1+n2, n1=n2, n2= nth
                    exit                                  Count+=1
```

Q2 (a) Write programs in Python to make the following shapes using LOOPS,
(a)

```
******
 ******
 ******
```

```python
rows = 3
columns = 6
for i in range (rows) :
    for j in range (columns) :
        print('*', end = '')
        print()
        num=5
        for i in range (0,num) :
            print(end=" ")
            for j in range (0,i+1) :
                print( )
```