Department of Electrical Engineering
Mid – Term Assignment Spring 2020
Date: 13/04/2020

Course Details

Course Title: Programming Fundamentals **Module:** 02
Instructor: ENG.MUHAMMAD WAQAS **Total Marks:** 30

Student Details

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Q1.	(a)	Write a program in python where you input two integer values from user and determine if the first integer is the multiple of the second integer.	Marks 5 CLO 1
	(b)	Write a program in python for a shopping mall to determine if the customer has exceeded the credit limit on a charge account. Program should input the following facts in five variables 1. Account number 2. Balance at the beginning of month (Beginning balance) 3. total of all items charged by customer this month (charges) 4. total of all credits (credits) 5. allowed credit limit Calculate the new balance New balance = Beginning balance + charges – credits Your program must determine if the new balance exceeds the allowed credit limit. If credit limit is exceeded then program should display the message "Credit Limit exceeded."	Marks 5 CLO 1
Q2.	(a)	1. Steps that involve precise sequence to solve a problem is called a. Statement b. Program c. Utility d. Routine 2. In an if structure statements are executed only, a. When the condition is false b. When it contain arithmetic operators c. When it contain logical operators d. When the condition is true 3. Which of the following can not be a variable name? a. area b. _area c. 10area d. area2 4. Which loop process is best when the number of iterations is known? a. for b. while c. again d. all looping processes require that the iterations be known 5. Which special character is in the end of a string to indicate the end? a. new line b. tab c. null d. carriage return 6. A total of _____ bytes are occupied by the following variable. txt = "programming fundamentals" 7. Commenting the code _____ a. Makes a program easy to understand for others. b. Make programs heavy, i.e. more space is needed for executable. c. Makes it difficult to compile d. All of the given options	Marks 14 CLO 1
Q3.	(a)	Write a program in python that will create and display the following series in the output using the formula $2x^2 - 3x$: 65, 44, 27, 14, 5, 0, -1, 2, 9, 20	Marks 2 CLO 1
	(b)	You have the following python code, draw the flow chart of the whole code numbers = range(10,20) sum = 0 for i in numbers: sum = sum + i print("Total Sum = ", sum)	Marks 3 CLO 1

QNo1 Part(a)

Write a Program in python where you input two integer values from user and determine if the first integer is the multiple of the Second integer.

Ans:.

Code.

```
1) lower = int (input ("Enter lower range limit:"))
2) upper = int(input("Enter upper range limit:"))
3) n = int (input ("Enter the number to be
                    divided by:"))
4) for i in range (lower, upper+1):
5) if (i % n == 0):
6)     Print (i)
```

Part (b)

writ a Program in python for a shopping mall to determine if the customer has exceeded the Credit

limit on a chare account.

Program Should input The following facts in five variables.

i) Account Number

2) Balance at The beginning of month (Beginning balance)

3) total of all items charged by Customer This month (charges)

4) total of all Credits (credits)

5) Allow Credit limit.

calculate The new balance

New balance = Beginning + Charges - Credit

Your Program must determine if The new balance exceeds The allowed Credit limit. if credit limit is exceeded The Program Should display The message "Credit Limit exceeded".

Code

```
1) def main ():
2)
3) Account_number = input ('enter your account number')
4) Print (Account_number)
5) Beginning_balance = int (input ('balance at the beginning
                                   of the month'))
6) Print (Beginning_balance)
7) Charges = int (input ('total of all items charged by
                         the customer this month'))
8) Print (charges)
9) Credits = int (input ('total of all credits'))
10) print (credits)
11) Credit_Limit = int (input the credit limit'))
12) print (Credit_Limit)
13) New_balance = Beginning_balance + Charges - Credits
14) if New_balance > credit_Limit:
15)     print ('New balance is Exceeded')
16) else:
17)     print ('credit Limit Exceeded')
18) main ()
```

QNO 2 Part (a)

1) Steps that involve Precise Sequen~~ce~~ to Solve a Problem is called.

a) Statement (b) Program ✓

c) Utility (d) Routine

2) In an if structure statements are excuted only

a) when the condition is false

b) when it contain arithmetic operator ~~Sequence~~

c) when it contain logical operator

d) when the condition is true ✓

3) which of the following can not be a variable name?

a) area (b) -area

c) 10area ✓ (d) area I

4) which loop process is best when the number of iterations is known?

a) for (b) while ✓

c) again (d) all looping processes require that the iteration

5) which special character is in the end of a string to indicate the end?

a) new line b) tab

c) null ✓ d) carriage return

6) A total of 22 bytes are occupied by the following variable

txt = "Programming Fundamental"

7) Commenting the code

a) Make a programm easy to under stand for others. ✓

b) Make program heavy, i.e more space is needed for excutable.

c) Make it difficult to compile.

d). All of the given options.

(Q NO3 part (a)

Write a program in python that will create and display the following series in the output using the formula $2x^2 - 3x$:

65, 44, 27, 14, 5, 0, -1, 2, 9, 20.

Ans: Code

```
1) import math
2) print("Enter the coefficients of form
        ax^3 + bx^2 + cx + d")
3) lst = [ ]
4) for i in range(0,65):
5) a = in(input("Enter coefficient:"))
6) lst.append(a)
7) x = int(input("Enter the value of x:"))
8) sum1 = 0
9) j = 2
```

```
10) for i in range(0,2):
11) while (j>0):
12) Sum1 = Sum1 + (lst[i]* math.pow(x,j))
13) break
14) i = j-1
15) Sum1 = Sum1 + lst[2]
16) Print("The value of The Polynomial
          is:", Sum1)
```

Part (b)

You have The following Python code, draw The flow chart of The whole

```
code number = range(10,20)
      Sum = 0
      for i in numbers:
        Sum = Sum + i
        Print("total sum =", Sum)
```

Ans:

Flow Chart