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|  | COMSATS University Islamabad, Lahore CampusMid Term (Fall 2021) |

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| Course Title: | Programming Fundamentals  F | | | | Course Code: | | CSC103 | Credit Hours: | | 4(3,1) |
| Course Instructor/s: | Mamoona Tasadduq | | | | Program Name: | | BCS | | | |
| Semester: |  | Batch: | FA21-BCS | Section: | C | |  | | | |
| **Time Allowed:** | **90 mins** | | | | **Maximum Marks:** | | | | **25** | |
| Student’s Name: |  | | | | Reg. No. |  | | | | |
| **Important Instructions / Guidelines:**   * Only ‘C’ programming language is considered wherever applicable. | | | | | | | | | | |

**SECTION I**

**Problem 1: [10]**

Write a C program that takes a positive number ‘n’ from the user and counts the number of odd digits in that number. [CLO 5]

**Sample Input/Output:**

Enter a number: 12390

Output: There are 3 odd digits in this number.

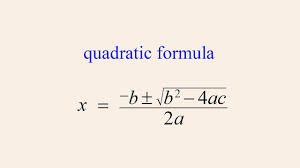
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Enter a number: 120

Output: There is 1 odd digit in this number.

**SECTION II**

**Problem 2: Given a quadratic formula [10]**

**** {\displaystyle x\_{1}={\frac {-b+{\sqrt {b^{2}-4ac}}}{2a}}\quad {\text{and}}\quad x\_{2}={\frac {-b-{\sqrt {b^{2}-4ac}}}{2a}}}

Write a C **function** that takes three input parameters a, b and c and prints the two values of x by using quadratic equation formula, where a,b and c are the constants entered by the user. Input should be taken in the main function. [CLO 5]

**Sample Input/Output:**

Enter value of a, b and c: 2 8 4

Output:

X1 = −0.585786

X2 = −3.41421

***Note:*** *Sqrt(x) function can be used to find square root.*

**Problem 3: [5]**

Write a C program that prints nxm matrix by using nested loops. The value of each number should be a random integer number from 3-8. [CLO 5]

Enter no. of rows: 2

Enter no. of cols: 3

The resultant matrix is: