# National University of Computer and Emerging Sciences, Lahore Campus

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|  | **Course:** | **COAL Lab** | **Course Code:** | **EL 213** |
| **Program:** | **BS(Computer Science)** | **Semester:** | **Fall 2022** |
| **Duration:** | **30 mins** | **Total Marks:** | **20** |
| **Date** | **22-09-22** | **Weight** | **5%** |
| **Section:** | **3L** | **Pages:** | **1** |

**Read below Instructions Carefully**

1. Understanding the question statement is also part of the quiz, so do not ask for any clarification.
2. Talking/Discussionisnotallowed.Itisyourresponsibilitytoprotectyourcodeandsaveit from being copied. If you don’t protect it all matching codes will be considered copy/cheating cases.
3. Failure to observe above mentioned instructions will lead to **negative marking** in Exam.

# Question 01:

# Write a program that computes multiple of three of every value in an array Array1 and stores it to another array Array\_x3. For example, if you read 2 from Array1 then you should store 6 as an answer in Array\_x3, and if you read 10 from Array1 then you should store 30 as an answer in Array\_x3. Modify the above given code by adding another loop (nesting loops) and use it to read and write in the arrays.

**Array1: dw 1,2,3,4,5,6,7,8,9,10**

**Array\_x3: dw 0,0,0,0,0,0,0,0,0,0**

Your final Array\_x3 should look like this

**Array\_x3: dw 3,6,9,12,15,18,21,24,27,30**

# Question 02:

You are given an **array** with elements ranging from 0-255, its **size** and another variable/memory label named ‘**num**\_**rot’**. Your task is to write an assembly program that rotates this array towards left ‘num\_rot’ times.

*You can create memory variables for any other thing as per your ease but the array should be rotated without making any copy of it.*

**For example**: Given the following data:

Array: db 1,2,3,4,5,6

Size: dw 6

num\_rot: dw 2

After completion of program, the array should look like this:

Array: db 3,4,5,6,1,2

# Question 03:

You are given two variables with name Number and Factorial. You have to find factorial of that number and save it in factorial.

**For example**: Given the following data:

Number: db 10

Factorial: dw 0

After completion of program, the array should look like this:

Number: db 10

Factorial: dw 3628800