National University of Computer and Emerging Sciences



# Laboratory Manual

*for*

# Programming Fundamentals

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| Section | C |
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**Lab Manual**

## Objectives

The objectives of this lab are to cover the following:

* Do while
* For loop

## Problems / Assignments

**Problem 1:**

Write a program that display input number in reverse order using for loop.

**Sample Output:**

Input a Number: 12345

Reverse order: 54321

**Problem 2:**

Running on a particular treadmill you burn 3.6 calories per minute. Write a program that uses a loop to display the number of calories burned after 5, 10, 15, 20, 25, and 30 minutes.

**Problem 3:**

The greatest common divisor (GCD) of two integers is the largest integer that evenly divides each of the numbers. Write a C++ program that gives the greatest common divisor of two positive integers. Take these two numbers from the user.

Remember that the GCD of two numbers can be computed using Euclidean Algorithm as follows

Chart

Description automatically generated with low confidence

**Sample Run:**

**Input num1:** 252

**Input num2:** 735

**Output**

**GCD:** 21

**Problem 4:**

Write a C++ program that takes as many numbers from user. As soon as he wants to stop inputting, he’ll enter -1. If the user entered greater than 50 number and old number ignore it. Now you’ll calculate the average of all even numbers that user entered using do while loop.

**Sample output:**

Enter number: 2

Enter number: 3

Enter number: 5

Enter number: 4

Enter number: -1

Average is: 3

**Problem 5:**

Write a number to calculate and display the sum of following series using do while loop.

x + x2 + x4 + …….. + xn

**Hint:**

Used **pow(x, i)** function for power

**Output:**

Enter a number: 5

Enter a value n: 5

Sum =655