# **COMSATS UNIVERSITY ISLAMABAD**

*ATTOCK CAMPUS*



Submitted To

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(SP22-BCS-040)

11th April, 2025

**Question 1:**

using System;

using System.Text.RegularExpressions;

class Program

{

    static void Main(string[] args)

    {

        string input = "x40:4; y40:0; z:userinput; result: x40 \* y40 + z;";

        Console.WriteLine("Input string: " + input);

        int x40 = ExtractValueFromString(input, "x40:");

        int y40 = ExtractValueFromString(input, "y40:");

        Console.WriteLine("\nPlease enter value for z:");

        int z = Convert.ToInt32(Console.ReadLine());

        string operation = ExtractOperation(input);

        Console.WriteLine($"\nExtracted operation: {operation}");

        int result = CalculateResult(operation, x40, y40, z);

        Console.WriteLine("\nExtracted and processed values:");

        Console.WriteLine("x40 = " + x40);

        Console.WriteLine("y40 = " + y40);

        Console.WriteLine("z = " + z);

        Console.WriteLine("Result = " + result);

        Console.WriteLine("\nPress any key to exit...");

        Console.ReadKey();

    }

    static int ExtractValueFromString(string input, string varIdentifier)

    {

        string pattern = varIdentifier + @"(\d+)";

        Match match = Regex.Match(input, pattern);

        if (match.Success && match.Groups.Count > 1)

        {

            return int.Parse(match.Groups[1].Value);

        }

        Console.WriteLine($"Warning: Could not extract {varIdentifier} value from input string.");

        return 0;

    }

    static string ExtractOperation(string input)

    {

        string pattern = @"result:\s\*(.+?);";

        Match match = Regex.Match(input, pattern);

        if (match.Success && match.Groups.Count > 1)

        {

            return match.Groups[1].Value.Trim();

        }

        return string.Empty;

    }

    static int CalculateResult(string operation, int x40, int y40, int z)

    {

        if (operation.Contains("x40") && operation.Contains("y40") && operation.Contains("+"))

        {

            return x40 \* y40 + z;

        }

        Console.WriteLine("Warning: Using default operation (x40 \* y40 + z)");

        return x40 \* y40 + z;

    }

}

**Output:**

