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EPAM - LAB_1

1. Write a C# code to implement the simple calculator?

TASK1: It's required to create a simple calculator with addition and subtraction operations for two integer numbers

Ans. Code:

```
What's New?   Program.cs*
Forloop                                   SimpleCalculator
1   // See https://aka.ms/new-console-template for more information
2   using System;
    0 references
3   public class SimpleCalculator{
        1 reference
4       public static int Add(int a, int b){
5           return a + b;
6       }
        1 reference
7       public static int Subtract(int a, int b){
8           return a - b;
9       }
        0 references
10      public static void Main(){
11          Console.WriteLine("Enter the first integer: ");
12          int num1 = int.Parse(Console.ReadLine());
13
14          Console.WriteLine("Enter the second integer: ");
15          int num2 = int.Parse(Console.ReadLine());
16
17          Console.WriteLine($"Sum: {Add(num1, num2)}");
18          Console.WriteLine($"Difference: {Subtract(num1, num2)}");
19      }
20  }
21
22
23
```

```
Microsoft Visual Studio Debu
Enter the first integer:
6
Enter the second integer:
5
Sum: 11
Difference: 1

C:\Users\Bhavana\source\repos\Forloop\bin\Debug\net8.0\Forlo
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le when debugging stops.
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```

2. For a given integer *n* calculate the value which is equal to:

1. squared number, if its value is strictly positive;
2. modulus of a number, if its value is strictly negative;
3. zero, if the integer n is zero.

Example

```
n = 4      result =  16
n = -5     result =  5
n = 0      result = 0
```

code:

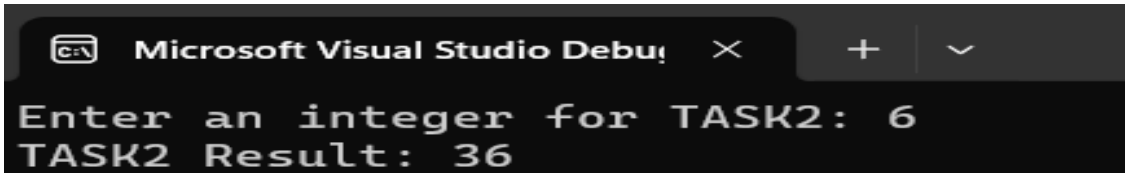
```
0 references
public class Main1 {
    1 reference
    public static int CalculateValue(int n){
        if (n > 0) return n * n;
        else if (n < 0) return Math.Abs(n);
        else
            return 0;
    }
```

```
0 references
public static void Main()
{

    Console.Write("Enter an integer for TASK2: ");
    int inputTask2 = int.Parse(Console.ReadLine());
    int resultTask2 = CalculateValue(inputTask2);
    Console.WriteLine($"TASK2 Result: {resultTask2}");

    Console.Write("Enter a three-digit positive integer for TASK3: ");
    int inputTask3 = int.Parse(Console.ReadLine());
    int resultTask3 = MaxPermutation(inputTask3);
    Console.WriteLine($"TASK3 Result: {resultTask3}");
}
```

Output:



TASK3: Find the maximum integer, that can be obtained by numbers of an arbitrary three-digit positive integer *n* permutation (100<=n<=999).

Example

```
n = 165    result =  651
```

code:

```
public static int MaxPermutation(int n)
{
    if (n < 100 || n > 999)
        throw new ArgumentException("Input must be a three-digit positive integer.");
    int[] digits = n.ToString().Select(c => int.Parse(c.ToString())).ToArray();
    Array.Sort(digits);
    Array.Reverse(digits);
    int result = int.Parse(string.Join("", digits));
    return result;
}
```

Output:

```
Enter a three-digit positive integer for TASK3: 754
TASK3 Result: 754

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le when debugging stops.
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```