



Module Code & Module Title CS6004 Application Development

Week 1 Assignment

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I confirm that I understand my coursework needs to be submitted online via MST Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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1. Introduction

In this assignment, we enhance a simple console application in .NET to execute basic arithmetic calculations. The application takes two numerical values from the user and computes their addition, subtraction, multiplication, and division. The outcomes are presented distinctly in the console for straightforward comprehension. Moreover, the program addresses possible edge cases, like erroneous input or division by zero, guaranteeing strength and dependability. This task strengthens understanding of user input management, mathematical operations, and conditional statements in C#.

2. Body

In this assignment we can create this project by implementing arithmetic operations.

The program should accept user input via the console/terminal.

I. This is addition of the two number.

```
Microsoft Visual Studio Debug Console
```

```
Calculator
1 for Addition
2 for Subtraction
3 for Multiplication
4 for Division
1
What is your first number?
5
What is your second number?
8
The sum is 13
C:\Users\HP\source\repos\FirstApplication\FirstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplication\firstApplicat
```

Figure 1: The console output of the two numbers will be added.

II. This is subtraction of the two number.

Microsoft Visual Studio Debug Console

```
Calculator
1 for Addition
2 for Subtraction
3 for Multiplication
4 for Division
2
What is your first number?
8
What is your second number?
4
The subtraction is 4
C:\Users\HP\source\repos\FirstApplication\FirstApplication\bin\Debug\n
with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools-
le when debugging stops.
Press any key to close this window . . .
```

Figure 2: The console output of the two numbers will be subtraction.

III. This is multiplication of the two number.

```
Calculator
1 for Addition
2 for Subtraction
3 for Multiplication
4 for Division
3
What is your first number?
3
What is your second number?
4
The multiply is 12
C:\Users\HP\source\repos\FirstApplication\FirstApplication\bin ith code 0 (0x0).
To automatically close the console when debugging stops, enable when debugging stops.
Press any key to close this window . . .
```

Figure 3: The console output of the two numbers will be multiple.

IV. This is division of the two number.

Microsoft Visual Studio Debug Console

```
Calculator
1 for Addition
2 for Subtraction
3 for Multiplication
4 for Division
4
What is your first number?
8
What is your second number?
2
The division is 4

C:\Users\HP\source\repos\FirstApplication\FirstApplication\bin ith code 0 (0x0).
To automatically close the console when debugging stops, enable le when debugging stops.
Press any key to close this window . . .
```

Figure 4: The console output of the two numbers will divided.

V. This is any number division by zero.

Calculator 1 for Addition 2 for Subtraction 3 for Multiplication 4 for Division 4 What is your first number? 8 What is your second number? 9 Number's can't be divided by zero C:\Users\HP\source\repos\FirstApplication\FirstApplication\bin' with code 0 (0x0). To automatically close the console when debugging stops, enable le when debugging stops. Press any key to close this window . . .

Figure 5: The console output of then two numbers will be divide by zero.

VI. This is the code of the program.

```
Console.WriteLine("Calculator");
Console.WriteLine("1 for Addition");
Console.WriteLine("2 for Subtraction");
Console.WriteLine("3 for Multiplication");
Console.WriteLine("4 for Division");
var input = int.Parse(Console.ReadLine());
if (input == 1)
{
  Console.WriteLine("What is your first number?");
  var first = int.Parse(Console.ReadLine());
  Console.WriteLine("What is your second number?");
  var second = int.Parse(Console.ReadLine());
  var sum = first + second;
  Console.WriteLine($"The sum is {sum}");
}
else if (input == 2)
{
  Console.WriteLine("What is your first number?");
  var first = int.Parse(Console.ReadLine());
  Console.WriteLine("What is your second number?");
  var second = int.Parse(Console.ReadLine());
  var sub = first - second;
  Console.WriteLine($"The subtraction is {sub}");
}
else if (input == 3)
{
  Console.WriteLine("What is your first number?");
  var first = int.Parse(Console.ReadLine());
  Console.WriteLine("What is your second number?");
```

```
var second = int.Parse(Console.ReadLine());
var multiply = first * second;
Console.WriteLine($"The multiply is {multiply}");
}
else if (input == 4)
{
    Console.WriteLine("What is your first number?");
    var first = int.Parse(Console.ReadLine());
    Console.WriteLine("What is your second number?");
    var second = int.Parse(Console.ReadLine());
    var div = first / second;
    Console.WriteLine($"The division is {div}");
}
```

3. Conclusion

The console-based math program effectively shows how to execute fundamental calculations and engage with users via the console. Incorporating input validation and managing division by zero makes the application more user-friendly and resilient to errors. This task offers a hands-on grasp of console input/output, data verification, and arithmetic computation in .NET, establishing a basis for more complex programming activities.