Programación #1

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Tarea 4. Desarrolle métodos y/o funciones para la Calculadora.

Usando los conocimientos adquiridos, debe completar los métodos faltantes en la clase de "Calculadora".

class > Program.cs > Program > Main

```
using System;
using System.Collections.Generic;

namespace CalculatorApp
{
    0 references
    class Program
    {
        0 references
        static void Main(string[] args)
        {
            List<decimal> typedNumbers = new List<decimal>();

            decimal result = 0;
            int typedOption = 1;
            int wantToContinue = 0;
            bool running = true;

        Console.WriteLine("This is the best calculator");

            while (running)
            {
            DisplayHeader();
            try
            {
            typedOption = Convert.ToInt32(Console.ReadLine());

            if (typedOption == 5)
                {
                running = false;
                }
                else
```

```
31                  {
32                      typedNumbers.Clear();
33                      wantToContinue = 0;
34
35                       Console.WriteLine("Please Type the first number");
36                       typedNumbers.Add(Convert.ToDecimal(Console.ReadLine()));
37
38                       Console.WriteLine("Please Type the second number");
39                       typedNumbers.Add(Convert.ToDecimal(Console.ReadLine()));
40
41                  while (wantToContinue != 2)
42                  {
43                      Console.WriteLine("You want to continue inserting numbers? 1. Yes, 2. No");
44                      wantToContinue = Convert.ToInt32(Console.ReadLine());
45
46                  if (wantToContinue == 1)
47                  {
48                      Console.WriteLine("Please Type another number");
49                      typedNumbers.Add(Convert.ToDecimal(Console.ReadLine()));
50                  }
51              }
52
53              switch (typedOption)
54              {
55                  case 1:
56                      result = AddList(typedNumbers);
57                          break;
58                  case 2:
59                      result = SubtractList(typedNumbers);
60                      break;
```

```
60                      break;
61                  case 3:
62                      result = MultiplyList(typedNumbers);
63                      break;
64                  case 4:
65                      result = DivideList(typedNumbers);
66                      break;
67                  default:
68                      Console.WriteLine("The option is not valid.");
69                      result = 0;
70                      break;
71                  }
72              }
73
74                  Console.WriteLine($"The Result of the operation is: {result}");
75              }
76              catch (DivideByZeroException ex)
77              {
78                  Console.WriteLine($"You cannot divide by zero: {ex.Message}");
79              }
80              catch (FormatException)
81              {
82                  Console.WriteLine("Invalid input! Please enter a number.");
83              }
```

```
84              catch (Exception ex)
85              {
86                  Console.WriteLine($"An error occurred: {ex.Message}");
87              }
88              finally
89              {
90                  Console.WriteLine("Closing DB Connection...");
91              }
92          }
93      }
94
        1 reference
95      static decimal AddList(List<decimal> numbers)
96      {
97          decimal result = 0;
98          foreach (decimal num in numbers)
99          {
100             result += num;
101         }
102         return result;
103     }
104
        1 reference
105     static decimal SubtractList(List<decimal> numbers)
106     {
107         if (numbers.Count == 0)
108             return 0;
109
110         decimal result = numbers[0];
111         for (int i = 1; i < numbers.Count; i++)
```

```
111         for (int i = 1; i < numbers.Count; i++)
112         {
113             result -= numbers[i];
114         }
115         return result;
116     }
117
        1 reference
118     static decimal MultiplyList(List<decimal> numbers)
119     {
120         if (numbers.Count == 0)
121             return 1;
122
123         decimal result = 1;
124         foreach (decimal num in numbers)
125         {
126             result *= num;
127         }
128         return result;
129     }
130
        1 reference
131     static decimal DivideList(List<decimal> numbers)
132     {
133         if (numbers.Count == 0)
134             return 0;
135         if (numbers[0] == 0)
136             throw new DivideByZeroException("First number cannot be zero.");
137
```

```
1 reference
        static decimal DivideList(List<decimal> numbers)
        {
            if (numbers.Count == 0)
                return 0;
            if (numbers[0] == 0)
                throw new DivideByZeroException("First number cannot be zero.");

            decimal result = numbers[0];
            for (int i = 1; i < numbers.Count; i++)
            {
                if (numbers[i] == 0)
                {
                    throw new DivideByZeroException("You tried to divide by zero.");
                }
                result /= numbers[i];
            }
            return result;
        }

1 reference
        static void DisplayHeader()
        {
            Console.WriteLine("Please Type the option number that you want:");
            Console.WriteLine("---------------------------------------");
            Console.WriteLine("1. Sum, \n2. Subtract,  \n3. Multiplication,  \n4. Division,  \n5. Exit");
        }
    }
}
```

```
PS C:\Users\Martha\Documents\MyProjectsc#> cd class
PS C:\Users\Martha\Documents\MyProjectsc#\class> dotnet run
This is the best calculator
Please Type the option number that you want:
---------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
1
Please Type the first number
35
Please Type the second number
20
You want to continue inserting numbers? 1. Yes, 2. No
1
Please Type another number
10
You want to continue inserting numbers? 1. Yes, 2. No
2
The Result of the operation is: 65
Closing DB Connection...
Please Type the option number that you want:
---------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
```

```
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
2
Please Type the first number
56
Please Type the second number
30
You want to continue inserting numbers? 1. Yes, 2. No
1
Please Type another number
4
You want to continue inserting numbers? 1. Yes, 2. No
2
The Result of the operation is: 22
Closing DB Connection...
Please Type the option number that you want:
--------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
```

```
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
3
Please Type the first number
15
Please Type the second number
3
You want to continue inserting numbers? 1. Yes, 2. No
2
The Result of the operation is: 45
Closing DB Connection...
Please Type the option number that you want:
--------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
```

```
-------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
4
Please Type the first number
100
Please Type the second number
4
You want to continue inserting numbers? 1. Yes, 2. No
2
The Result of the operation is: 25
Closing DB Connection...
Please Type the option number that you want:
-------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
```

```
-------------------------------------
1. Sum,
2. Subtract,
3. Multiplication,
4. Division,
5. Exit
5
The Result of the operation is: 25
Closing DB Connection...
PS C:\Users\Martha\Documents\MyProjectsc#\class>
```