جامعة المستقبل
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Subject: Data Structure

Class: 2nd

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Lecture: (2Practical)

Study Year: 2024-2025

Introduction:

application for a calculator that performs basic arithmetic operations: addition, subtraction, multiplication, and division. Here's a detailed explanation of the code:

Code Explanation:

1. Defining the Basic Elements:

- **num1 and num2**: These variables store the values entered by the user in the text boxes (TextBox1 and TextBox2).
- **result**: This variable stores the result of the selected arithmetic operation.

2. Handling the Button1_Click Event:

- This subroutine is executed when the user clicks **Button1**.
- **Try-Catch**: This block ensures that the user has entered valid numbers in the text boxes. If invalid values are entered (like letters instead of numbers), an error message is shown using MessageBox.Show("Please enter valid numbers"), and the subroutine exits with Exit Sub.

3. Selecting the Arithmetic Operation (Select Case):

- ComboBox1 allows the user to select the desired arithmetic operation (addition, subtraction, multiplication, division).
- Depending on the selection, the appropriate operation is performed:
  - **Addition**: result = num1 + num2
  - **Subtraction**: result = num1 - num2
  - **Multiplication**: result = num1 * num2

- **Division**:
  - If the second number (num2) is zero, a message box is shown indicating that division by zero is not allowed, and the operation is stopped.
  - If the second number is valid, the division is performed: result = num1 / num2.

- If no operation is selected from the ComboBox, a message prompts the user to choose an arithmetic operation.

4. Displaying the Result:

- After successfully performing the calculation, the result is displayed in LabelResult as text, with the prefix "Result: " followed by the result.

5. Form Load Event (Form1_Load):

- When the form loads, the available arithmetic operations ("Addition", "Subtraction", "Multiplication", "Division") are added to the ComboBox1.
- The default operation is set to the first item in the list, which is "Addition".

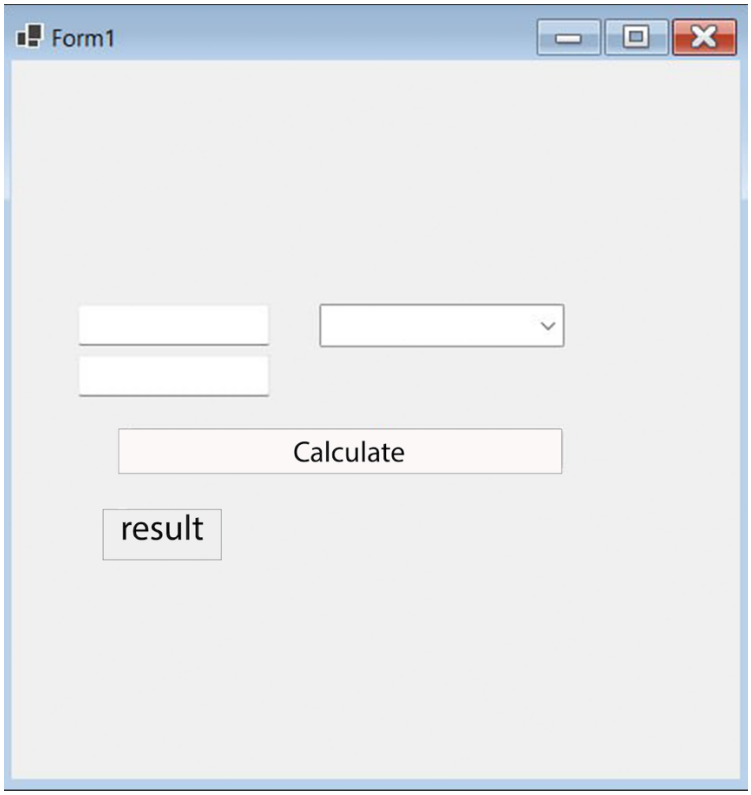

Fig: Showing graphical interface of program.

```
Public Class Form1


Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
Button1.Click

Dim num1 As Double

Dim num2 As Double

Dim result As Double
```

```
Try
(num1 = Convert.ToDouble(TextBox1.Text
(num2 = Convert.ToDouble(TextBox2.Text
Catch ex As Exception


MessageBox.Show("please inter the integer number")
Exit Sub
    End Try
Select Case ComboBox1.SelectedItem.ToString()
Case "addition"
result = num1 + num2
Case "subtraction"
result = num1 - num2
Case "multiplication"
result = num1 * num2
Case "division"
```

```
If num2 = 0 Then
MessageBox.Show(“Can't be divided by zero”)
Exit Sub
Else
result = num1 / num2
End If
Case Else

MessageBox.Show ("Please select a calculation")
Exit Sub
End Select


LabelResult.Text = "result:" & result.ToString()
End Sub
Private Sub Form1_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
```

```
ComboBox1.Items.AddRange(NewString(){"addition","subtraction","multiplication
", "division"})

ComboBox1.SelectedIndex = 0

End Sub

End Class
```