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COMPUTER PROGRAMMING

INPUT, OUTPUT AND ASSIGNMENT INSTRUCTION - EXERCISE

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Exercise 1: Simple Math

- In this program, you need to insert **two Text boxes, four labels and one button**. Click the button and key in the code as shown below. Note how the various arithmetic operators are being used. When you run the program, it will perform the four basic arithmetic operations and display the results on the four labels.

Exercise 1: Form and Coding

- Dim num1, num2, difference, product, sum, quotient As Single

    num1 = TextBox1.Text

    num2 = TextBox2.Text

    sum = num1 + num2

    difference = num1 - num2

    product = num1 * num2
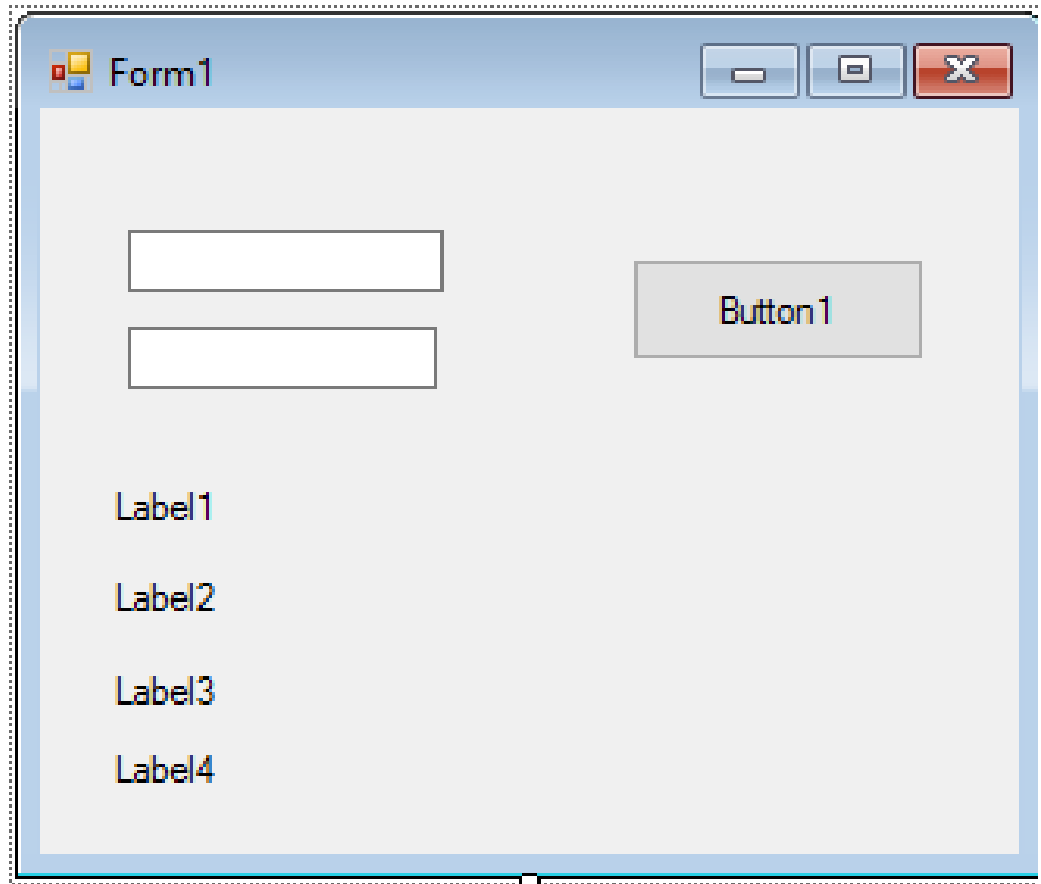
    quotient = num1 / num2

    Label1.Text = sum

    Label2.Text = difference

    Label3.Text = product

    Label4.Text = quotient
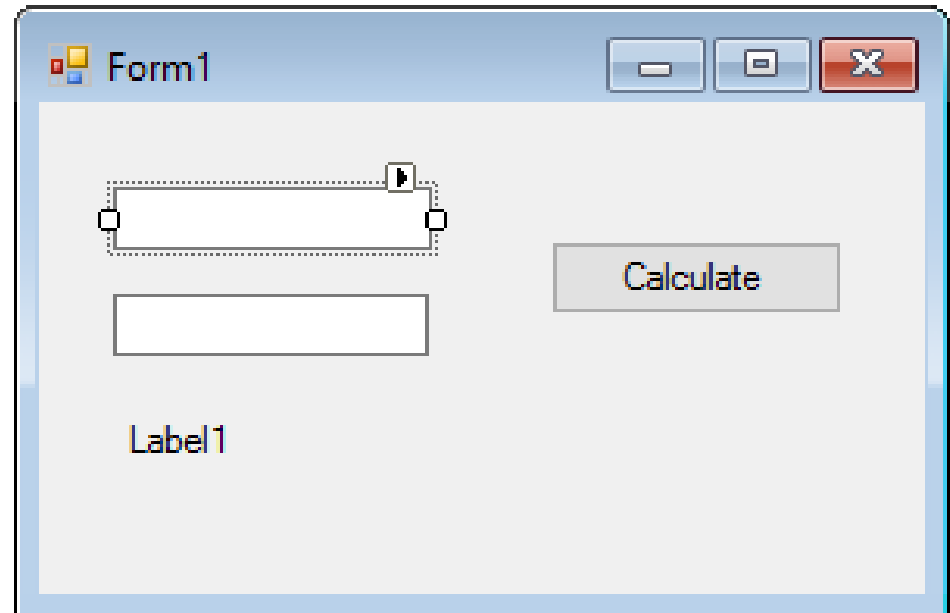
Exercise 2: Pythagoras Theorem

- In this program, you need to insert **two Text boxes, one label and one button**. The program can use Pythagoras Theorem to calculate the length of hypotenuse c given the length of the adjacent side a and the opposite side b. In case you have forgotten the formula for the Pythagoras Theorem, it is written as:

Exercise 2: Form and Coding

- Dim a, b, c As Single

    a = TextBox1.Text

    b = TextBox2.Text

    c = (a ^ 2 + b ^ 2) ^ (1 / 2)

    Label1.Text = c

Exercise 3: BMI Calculator

- In this program, you need to insert **three Text boxes, three labels (for labelling purposes) and one button**. A lot of people are obese now and it could affect their health seriously . Obesity has proven by the medical experts to be a one of the main factors that brings many adverse medical problems, including the heart disease. If your BMI is more than 30, you are considered obese. You can refer to the following range of BMI values for your weight status.
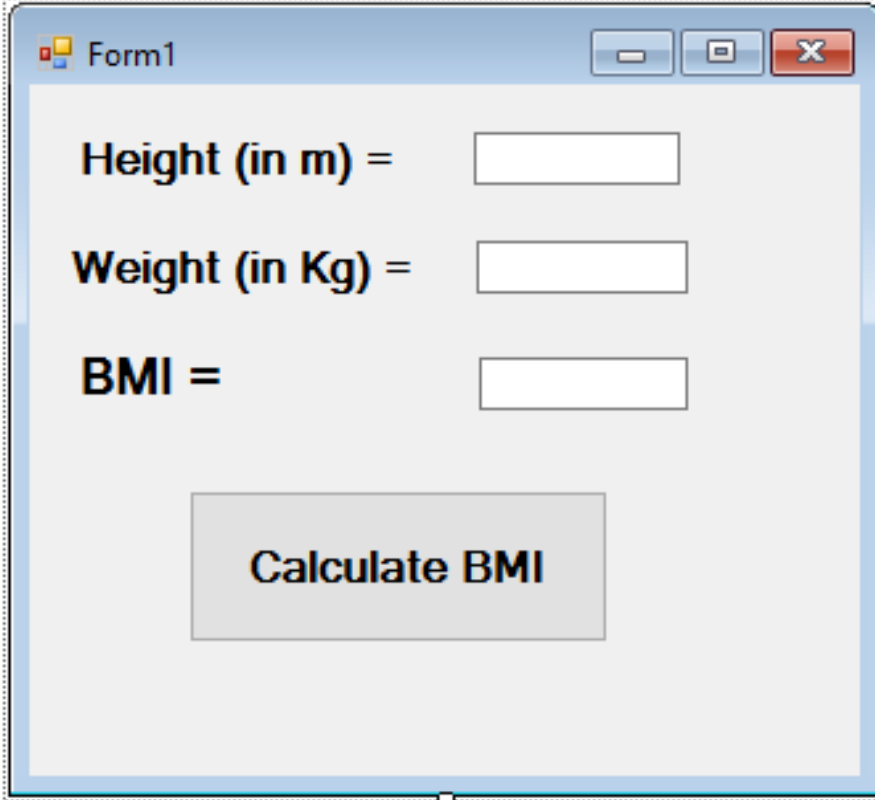
Exercise 3: Form and Coding

- Dim height, weight, bmi As Single

    height = TextBox1.Text

    weight = TextBox2.Text

    bmi = (weight) / (height ^ 2)

    TextBox3.Text = bmi

Exercise 4: Simply Supported Beam

- In this program, you need to insert **one picture (simply support beam), three Text boxes, five labels (three for labelling purposes, two for labelling and display output), and three button (calculate, clear, exit).**

- This is an example related to simple civil engineering application

- User need to input the value of force (F), span length (L) and distance of force from support A (a) to calculate reaction forces in support a (Ra) and support b (Rb).

Exercise 4: Form and Output

Exercise 4: Coding – Calculate Button

- For Calculate button (btnCal)

```
Private Sub btnCal_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnCal.Click
    Dim Load, Span, A, Ra, Rb As Single
    Load = Val(txtF.Text)
    A = Val(txta.Text)
    Span = Val(txtL.Text)
    Ra = Load * (Span - A) / Span
    Rb = Load - Ra
    lblRa.Text = Ra
    lblRb.Text = Rb
End Sub
```

Exercise 4: Coding – Clear Button

- For Clear button (btnClear)

Private Sub btnClear_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnClear.Click

    lblRa.Text = "Ra"

    lblRb.Text = "Rb"

    txtF.Text = ""

    txta.Text = ""

    txtL.Text = ""

  End Sub

Exercise 4: Coding – Exit Button

- For Exit button (btnExit)

Private Sub btnExit_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnExit.Click

    End

  End Sub