

**Tutorial # 7**

**Question#1:** What is the output of the following programs?

Private Sub btnDisplay\_Click(...) Handles btnDisplay.Click

Dim firstName As String = ""

Dim lastName As String = ""

Dim salary, newSalary As Double salary = 0

textBox1.Text="First Name: " & firstName & " Last Name: " & lastName & " Salary =" & salary

InputData(firstName, lastName, salary)

textBox3.Text="First Name: " & firstName & " Last Name: " & lastName & " Salary =" & salary

newSalary = RaisedSalary(salary)

textBox5.Text=" salary =" & salary & ", New Salary =" & newSalary

End Sub

Sub InputData(ByRef firstName As String, ByVal lastName As String, ByRef salary As Double)

firstName = txtFirstName.Text

lastName = txtLastName.Text

salary = CDbl(txtCurrentSalary.Text)

textBox2.Text="First Name:" & firstName & "Last Name:" & lastName & "Salary =" & salary

End Sub

Function RaisedSalary(ByVal salary As Double) As Double

If salary <= 40000 Then salary= 1.05 \* salary Else

salary = salary + 2000 + 0.02 \* (salary - 40000) End If

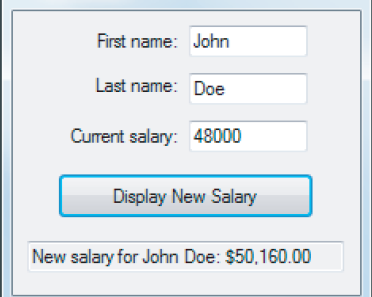
textBox4.Text=" salary =" & salary

Return salary

End Function

**Input:**

30000



|  |  |
| --- | --- |
| **textBox1.Text** | First Name: Last Name: Salary =0 |
| **textBox2.Text** | First Name:John Last Name:Doe Salary =30000 |
| **textBox3.Text** | First Name: John Last Name: Salary =30000 |
| **textBox4.Text** | salary =31500 |
| **textBox5.Text** | salary =30000 , New Salary =31500 |



**Question#2: Extract errors from the following codes & then obtain weather they are Syntax**

**Error or Run time Error?**

**a)**

1 Private Sub CalculateArea(Byval Length As Double) As Double

2 Return Length ^ 2

3 End Sub

|  |  |  |  |
| --- | --- | --- | --- |
| **Line#** | **Error Description** | **Error Type (Syntax or Runtime)** | **Correction** |
| 1 | Sub procedure can't return value | syntax | Private Sub CalculateArea (ByRef Length As Double)  Length = Length ^ 2  End Sub |

**b)**

1 Private Sub btnCalculate\_Click(...) Handles btnCalculate.Click

2

3 Dim weight As String = txtWeight.Text

4 Dim height As String = txtHeight.Text

5 Dim result As Double

6

7 result = BMI(weight, height)

8 End Sub

9

10 Function BMI(ByVal w As Double, ByVal h As Double) As Double

11 Dim r As String

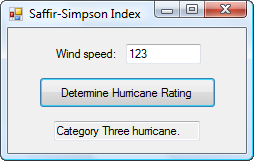
12

14 r = "The result equals to " & ((703 \* w) / (h ^ 2))

15 Return r

16 End Function

|  |  |  |  |
| --- | --- | --- | --- |
| **Line#** | **Error Description** | **Error Type (Syntax or Runtime)** | **Correction** |
| 5 | Not suitable data type | runtime | Dim result As String |
| 10 | Not suitable return data type | runtime | AS String |



**Question #3: Convert the following program into three procedures (functions or subroutine) (one for reading input – two for processing input – three for displaying output)**

Original Code

Private Sub btnDetermine\_Click(...) Handles btnDetermine.Click

Dim speed As Double = txtSpeed.Text

Dim outText As String = Nothing

If speed < 74 Then

outText= "Not a hurricane." ElseIf speed <= 95 Then

outText = "Category One hurricane."

ElseIf speed <= 110 Then

outText = "Category Two hurricane." ElseIf speed <= 130 Then

outText = "Category Three hurricane."

ElseIf speed <= 155 Then

outText = "Category Four hurricane." Else

outText = "Category Five hurricane." End If

txtOutcome.Text = outText

End Sub

Code after breaking it to procedures:

Private Sub Button1\_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click

Dim speed As Double

Dim outText As String = Nothing

Read(speed)

outText = Determine(speed)

Display(outText)

End Sub

Sub Read(ByRef speed As Double)

speed = txtSpeed.Text()

End Sub

Function Determine(ByVal speed As Double) As String

If speed < 74 Then

Return "Not a hurricane."

ElseIf speed <= 95 Then

Return "Category One hurricane."

ElseIf speed <= 110 Then

Return "Category Two hurricane."

ElseIf speed <= 130 Then

Return "Category Three hurricane."

ElseIf speed <= 155 Then

Return "Category Four hurricane."

Else

Return "Category Five hurricane."

End If

End Function

Sub Display(ByVal outText)

txtOutcome.Text = outText

End Sub

End Class