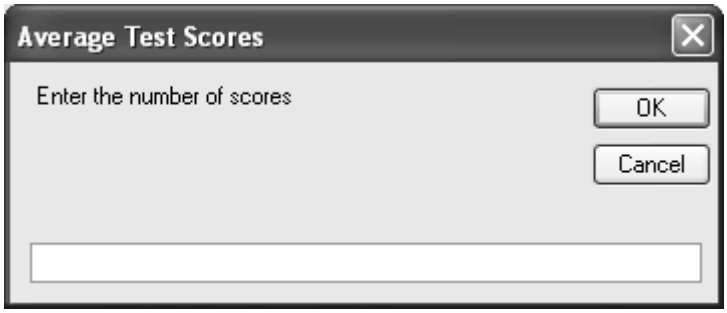
Name:_____

1. A simple way to gather user information is to use an InputBox function to get a string of input. The general format is:

```
strUserInput = InputBox(Prompt [, Title] [, Default] [, XPos] [YPos])
```

where stuff in the [ ] brackets are optional. The `Default` is the initial value in the InputBox with the default value of an empty string, and the center of the screen is used if no `XPos` or `YPos` are used. For example, the InputBox is shown for the call: `InputBox("Enter the number of scores", "Average Test Scores")`



a) Why do you suppose usage of the InputBox is frowned upon?

b) Where do you suppose XPos = 0 and YPos = 0 is at on the screen?

2. Suppose I had a stack of test papers and I wanted to find out the class average. What steps would I do by hand to calculate the class average?

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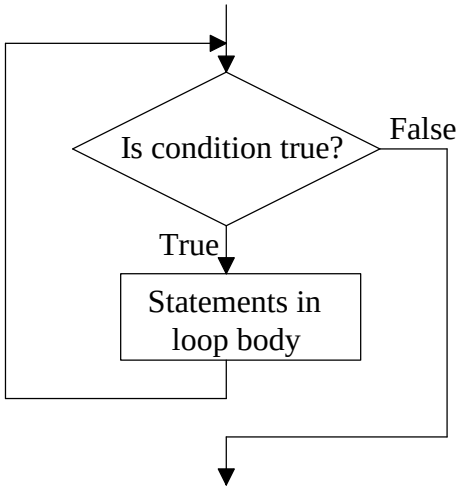
3. A *loop* in statement that causes a block of code to be repeated. Visual Basic has three types of loops: the `Do While` loop, the `Do Until` loop, and the `For ... Next` loop to use in different situations. The *pretest* format and flowchart of the `Do While` loop are:

```
Do While boolean condition
    statement1
    statement2
    . . .
Loop
```



The condition is checked before the first loop body. If the condition is True, the loop body is executed and then the condition is rechecked. The loop continues to *iterate* until the condition is False when we *drop out of the loop*.

Complete the following example of a counter controlled loop to calculate the average of a set of test scores.

```
Public Class Form1

    Private Sub btnEnterData_Click(ByVal sender As System.Object, _
                ByVal e As System.EventArgs) Handles btnEnterData.Click
        Dim strUserInput As String
        Dim intNumberOfScores As Integer
        Dim intCounter As Integer
        Dim decScore As Decimal
        Dim decTotal As Decimal

        strUserInput = InputBox("Enter the number of scores", _
                                "Average Test Scores")
        If Integer.TryParse(strUserInput, intNumberOfScores) Then
            intCounter = [                    ]
            Do While [                                        ]

                strUserInput = InputBox("Enter a score")
                decScore = CDec(strUserInput)
                decTotal = [                    ]
               intCounter = [                    ]
            Loop
            MessageBox.Show("The average score is " & _
                       (decTotal / intNumberOfScores).ToString("n1"))
        Else
            MessageBox.Show("Incorrect Number of Scores")
        End If
    End Sub
End Class
```

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4. The *posttest* format of the `Do While` loop is:

```
Do
        statement1
        statement2
        . . .
Loop While boolean condition
```

The body of the loop is always done at least once before the condition is checked to see if the loop should iterate again.
Draw the flowchart for the posttest version of the `Do While` loop.

5. Another type of loop is the `Do Until` loop. Its pretest and posttest formats are given below. Draw the flowchart for each version.

```
Do Until boolean condition
    statement1
    statement2
    . . .
Loop
```

```
Do
    statement1
    statement2
    . . .
Loop Until boolean condition
```

6. Using a `Do Until` loop how could we make the code in question 3 more robust to validate correctly formatted scores.

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7. The `For ... Next` loop is useful in situations requiring a counter since it automatically initializes, tests, and increments the counter. The general format of the `For ... Next` loop is:

```
For CounterVariable = startValue To endValue [Step increment]
    statement1
    statement2
    . . .
Next [CounterVariable]
```

Rewrite the loop from question 3 utilizing the `For ... Next` loop.