Visual Basic   Name -
Tracing While Loops Worksheet #3   Period -

Trace the following code segments showing the values for each variable in the appropriate columns. If an error occurs, explain it. Write "infinite loop" if a loop never ends. **Circle the final values stored in each variable.**

1. Assume the user inputs the values 20, 9, 15, -1   count   sum   num   average   exitLoop

```
Dim average As Integer = 0
Dim count As Integer = -1
Dim sum As Integer = 0
Dim num As Integer = 0
Dim exitLoop As Boolean = False

While (exitLoop = False)
    sum += num
    count += 1
    num = InputBox("Enter a number or -1 to quit: ")

    If (num = -1) Then
        exitLoop = True
    End If
End While

average = sum/count
```

2. Assume the user inputs the values 20, 9, 15, -1   count   sum   num   average   exitLoop

```
Dim average As Integer = 0
Dim count As Integer = 0
Dim sum As Integer = 0
Dim num As Integer = 0
Dim exitLoop As Boolean = False

While (Not (exitLoop))
    num = InputBox("Enter a number or -1 to quit: ")

    If (num = -1) Then
        exitLoop = True
    Else
        sum += num
        count += 1
    End If
End While

average = sum/count
```

3. Assume the user inputs the values 20, 9, 15, -1   count   sum   num   average   exitLoop

```
Dim average As Integer = 0
Dim count As Integer = 0
Dim sum As Integer = 0
Dim num As Integer = 0
Dim exitLoop As Boolean = False

While (exitLoop <> True)
    num = InputBox("Enter a number or -1 to quit: ")
    sum += num
    count += 1

    If (num = -1) Then
        exitLoop = True
    End If
End While

average = (sum + 1) / (count - 1)
```

4. What flag variable is used in the loops in the exercises above? _____
5. (on the back) Explain the similarities & differences in the exercises above.