Visual Basic   Name -
Writing While Loops Worksheet #1   Period -

Rearrange the following lines of code to fulfill the required specifications. Trace the code segments as well.

1. Rearrange & rewrite the following lines of code in the correct order so that a `While` loop is used to add up the integers from 1 to 4 and stores that sum of 10 in the variable named `sum`. Trace the code segment as well to check your work.
<u>rewrite the statements here</u>

```
num += 1                                                num          sum
Dim sum As Integer = 0
sum += num
End While
While (num <= 4)
Dim num As Integer = 1
```

2. Fill in the blanks to the code segment below that uses a `While` loop to add up the integers from 13 to 16 & stores that sum of 58 in a variable named `sum`. Trace the code segment as well.

```
Dim num As Integer = 13                                 num          sum

Dim sum As Integer = _____

While (num <= _____ )

        sum += _____

        _____ += 1

End While
```

3. Fix the logic error in this code segment that is supposed to use a `While` loop to add up all the integers that are **multiples of 3** between 3 and 12 and store that sum of 40 in a variable named `sum`. Then trace the code to be sure it works correctly.
                                                        num   sum
```
num = 3
sum = 0
While (num < 12)
        sum += num
        num += 3
End While
```

4. Analyze the following a code segment that is intended to allow the user to input integers until he/she inputs the value -1 and that stores that running total of integers (except for -1) into a variable named `sum`. **Trace the code segment by plugging in fictitious numbers of your choice for the `InputBox`.** Explain and correct any logical errors that you find.
                                                        num   sum
```
num = 0
sum = 0
While (num <> -1)
        num = InputBox("Enter a number or -1 to quit")
        sum += num
End While
```

5. What sentinel value is being used in the `While` loop above? Read the lecture notes if you don't know what a "sentinel value" is!