

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

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

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

average = sum/count

2. Assume the user inputs the values 20, 9, 15, -1

count

sum

num

average

```
Dim average As Integer = 0
Dim count As Integer = 0
Dim sum As Integer = 0
Dim num As Integer = 0
```

```
While (num <> -1)
    num = InputBox("Enter a number or -1 to quit: ")

    If (num = -1)Then
        Exit While
    End If
```

```
    sum += num
    count += 1
End While
```

average = sum/count

3. Assume the user inputs the values 20, 9, 15, -1

count

sum

num

average

```
Dim average As Integer = 0
Dim count As Integer = 0
Dim sum As Integer = 0
Dim num As Integer = 0
```

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

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

4. What sentinel value is used in the loops in the exercises above? _____

5. Explain the the differences in the three exercises above despite the fact that the final value of the average is the same.