

## Part A [10 points]

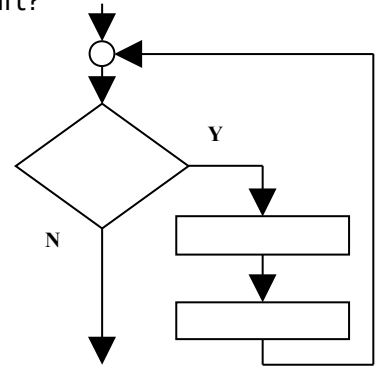
Circle the LETTER of each correct answer.

1. The flow of control can pass from one instruction to another in \_\_\_\_\_ ways.

A. 1  
 B. 2  
 C. 3  
 D. 4 - also acceptable, but only one of the two.  
 E. 5

2. Which of the following structures is represented by the flow chart?

A. Do ... Loop Until <condition>  
 B. Do ... Loop While <condition>  
 C. Do Until <condition> ... Loop  
 D. Do While <condition> ... Loop  
 E. For ... Next

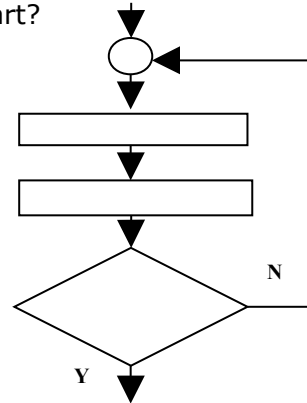


3. Which of the following best describes this structure?

A. counted loop  
 B. If /Then /Else /End If  
 C. If /Then /End If  
 D. post-test conditional loop  
 E. pre-test conditional loop

4. Which of the following structures is represented by the flow chart?

A. Do ... Loop Until <condition>  
 B. Do ... Loop While <condition>  
 C. Do Until <condition> ... Loop  
 D. Do While <condition> ... Loop  
 E. For ... Next



5. Which of the following best describes this structure?

A. counted loop  
 B. If /Then /Else /End If  
 C. If /Then /End If  
 D. post-test conditional loop  
 E. pre-test conditional loop

6. The value of the counter in a For ... Next never exceeds the limit set for it.

A. True  
 B. False

7. It is possible that the body of a Do Until <condition> ... Loop might never be executed.

A. True  
 B. False

8. It is possible that the body of a Do ... Loop While <condition> might never be executed.

A. True  
 B. False

9. The counter in a For ... Next is changed after the body of the loop has been executed.

A. True  
 B. False

10. It is possible that the body of a For ... Next might never be executed.

A. True  
 B. False

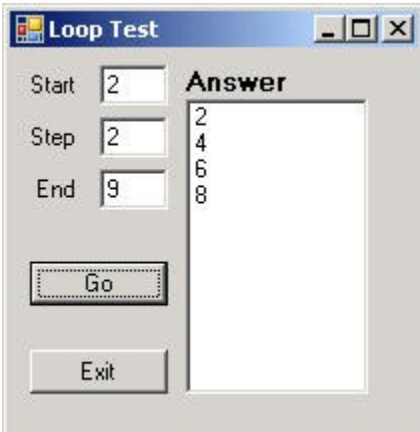
## Part B [6 points]

Use the following code for the next 6 questions.

```
Private Sub btnGo_Click(...) Handles btnGo.Click
    Dim begin, delta, finish As Integer
    begin = CInt(txtStart.Text)
    delta = CInt(txtStep.Text)
    finish = CInt(txtEnd.Text)
    lstAnswer.Items.Clear()
    For counter As Integer = begin To finish Step delta
        lstAnswer.Items.Add(counter)
    Next
End Sub
```

For each of the following sets of data, show the output when the Go button is clicked.  
If there is no output leave the answer space **blank**.  
If there will be an error of some kind write **"error"**.

1



Loop Test

Start: 2, Step: 2, End: 9

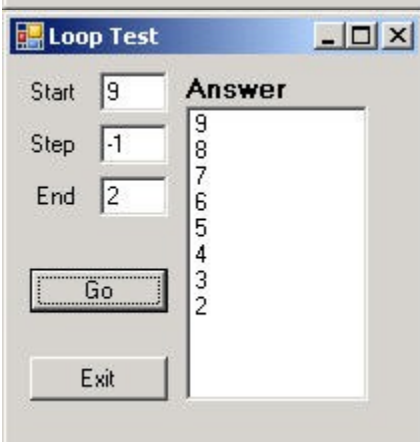
Go

Exit

Answer

2, 4, 6, 8

2



Loop Test

Start: 9, Step: -1, End: 2

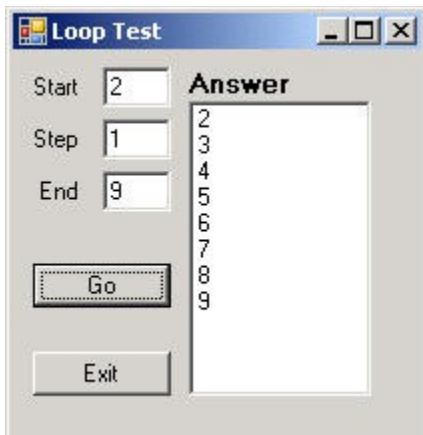
Go

Exit

Answer

9, 8, 7, 6, 5, 4, 3, 2

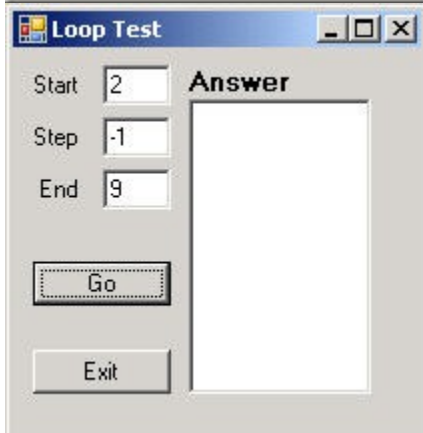
3



Loop Test window showing Start: 2, Step: 1, End: 9. The Answer list contains the numbers 2 through 9.

Start	Step	End	Answer
2	1	9	2
			3
			4
			5
			6
			7
			8
			9

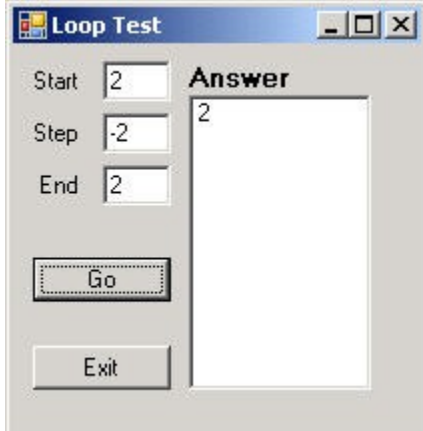
4



Loop Test window showing Start: 2, Step: -1, End: 9. The Answer list is empty.

Start	Step	End	Answer
2	-1	9	

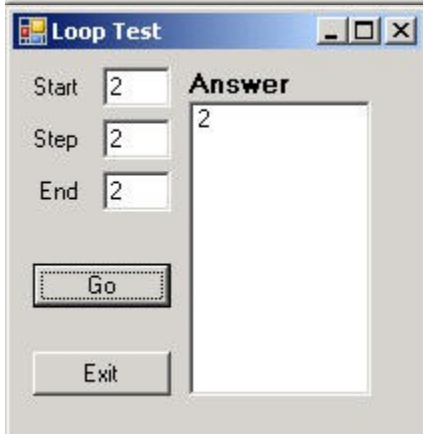
5



Loop Test window showing Start: 2, Step: -2, End: 2. The Answer list contains the number 2.

Start	Step	End	Answer
2	-2	2	2

6



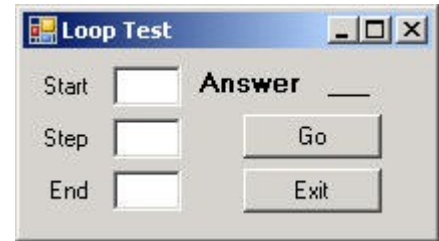
Loop Test window showing Start: 2, Step: 2, End: 2. The Answer list contains the number 2.

Start	Step	End	Answer
2	2	2	2

## Part C [4 points]

The code for the Go button has changed, as has the Form.

```
Private Sub btnGo_Click(...) Handles btnGo.Click
    Dim counter, begin, delta, finish As Integer
    begin = CInt(txtStart.Text)
    delta = CInt(txtStep.Text)
    finish = CInt(txtEnd.Text)
    For counter = begin To finish Step delta
        'do nothing
    Next
    lblAnswer.Text = counter
End Sub
```



For each set of input values, indicate what will appear in `lblAnswer` when the Go button is clicked.

- |    |                                   |                  |
|----|-----------------------------------|------------------|
| 7  | Start = 2<br>Step = 1<br>End = 9  | Answer: _____ 10 |
| 8  | Start = 2<br>Step = 3<br>End = 9  | Answer: _____ 11 |
| 9  | Start = 2<br>Step = -2<br>End = 9 | Answer: _____ 2  |
| 10 | Start = 9<br>Step = -3<br>End = 2 | Answer: _____ 0  |