Answers to Review Questions

Chapter 5

Fill-in-the-Blank

1. Input box
2. List box
3. Loop or repetition structure
4. Infinite
5. Counter
6. Post-test
7. Iteration
8. `Exit Do`
9. Nested
10. `Random`
11. `Next`
12. `NextDouble`
13. `Pmt`
14. `PPmt`
15. `IPmt`

Multiple Choice

1. c
2. a
3. b
4. a
5. c
6. b

7. d
8. b
9. b
10. c
11. b
12. b
13. c
14. a
15. b
16. d
17. d

True or False

1. False
2. False
3. False
4. True
5. True
6. False
7. True
8. True
9. True
10. False
11. True
12. False
13. False

14. True

Short Answer

1. *OK* and *Cance*l

2. If the user clicks the *Cancel* button, the function returns and empty string.

3. `lstVeggies.Items.Insert(2, "Spinach")`

4. `cboCourses.Items.RemoveAt(12)`

5. (1) an expression that is tested for a true or false value, and (2) a statement or group of statements that is repeated as long as the expression is true

6. When the code runs, the expression in the `Do While` statement is tested. If it is true, the statements in the body of the loop are executed. (Since these statements are only executed under the condition that the expression is true, they are called conditionally executed statements.) This cycle repeats until the expression is false. The `Do While` loop works like an `If` statement that executes over and over. As long as the expression is true, the conditionally executed statements will repeat.

7. This visually sets them apart from the surrounding statements.

8. A pretest loop evaluates its test-expression before each iteration. A posttest loop evaluates its test-expression after each iteration.

9. These statements are only executed under the condition that the loop's test expression is true.

10. The `Do Until` loop is identical to the `Do While` loop, except it repeats until its test expression is true.

11. The `Do While` loop

12. The `Do Until` loop

13. The `For…Next` loop

14. A combo box also has a rectangular area that functions like a text box.

15. Drop-down list combo box

16. Drop-down list combo box

17. The system time, retrieved from the computer's internal clock.

What Do You Think?

1. It is important to assign an initial value to a loop counter variable, so that the loop will execute as intended.

2. Because both the loop and the statement inside the body of the loop will change the value of the counter variable. This might cause the loop to iterate more or less times than it should.

3. The `Do Until` loop, because it is designed to repeat until a certain condition exists.

4. The `For…Next` loop, because it is designed to repeat a specified number of times.

5. The `Do While` loop, because it is designed to repeat as long as a condition exists.

6. Because it will always be a unique value.

7. The 7th, because the index values start at 0.

8. Drop-down or simple combo box.

9. A list box or a drop-down list combo box.

Find the Error

1. The code should read:

```
Do While intX < 100
  intX = intX + 1
Loop
```

2. The code should read:

```
Do
  lstOutput.Items.Add("Hello")
  intCount = intCount + 1
Loop While intCount < 10
```

3. The code should read:

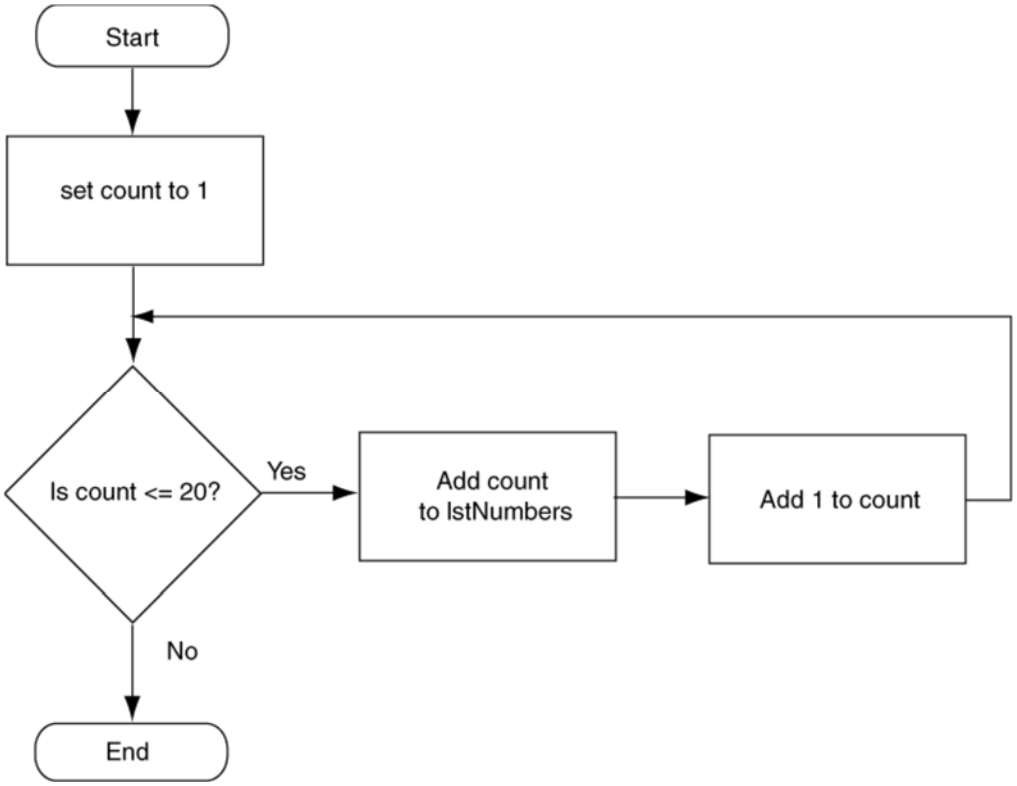
```
Do Until intX = 99
 intX = intX + 1
Loop
```

4. The statement does not specify an upper limit for the counter variable. For example, if the loop is to repeat 10 times, the code should read:

```
For intX = 1 to 10
  lstOutput.Items.Add(intX)
Next intX
```

Algorithm Workbench

1.



2.
```
For count = 1 To 20
  lstNumbers.Items.Add(count)
Next count
```

3.
```
Do
  intNumber = InputBox("Enter a number.")
  intProduct = intNumber * 10
Loop While intProduct < 100
```

4.
```
Do
  intNum1 = InputBox("Enter first number.")
  intNum2 = InputBox("Enter second number.")
  intSum = intNum1 + intNum2
  MessageBox.Show("The sum is " & intSum.ToString())
  intAgain = MessageBox.Show("Go again?", "Confirm",
             MessageBoxButtons.YesNo)
Loop While intAgain = DialogResult.Yes
```

5.
```
For intNum = 0 To 1000 Step 10
  lstNumbers.Items.Add(intNum)
Next intNum
```

6.
```
For intCount = 1 To 10
  intNum = CInt(InputBox("Enter a number."))
  intTotal += intNum
Next count
```

7.
```
Do
  strInput = InputBox("Enter a number")
  intX = Cint(strInput)
Loop While intX > 0
```

8.
```
strInput = String.Input
Do Until strInput.ToUpper = "Y"
  input = InputBox("Are you sure you want to quit?")
Loop
```

9.
```
For intCount = 0 To 49
  lstOutput.Items.Add(intCount)
Next intCount
```

10.
```
intX = 50
Do While intX >= 0
  lstOutput.Items.Add(intX)
  intX -= 1
Loop
```

11.
```
With txtName
  .Text = "(unknown)"
```

```
        .Font.Size = 10
        .BackColor = Color.Red
    End With
```