**Chapter 5 Loops and String Methods**

**Accumulator equation** – adds a number to a total to update it each time through a loop: total = total + num or total+=num

**Counter equation** – adds one to a variable each time through a loop: count=count +1 or count+=1

**Loops**

Each time through a loop is called an **iteration.**

A loop that never ends is called an **infinite** loop.

There are 3 kinds of loops:

1. Do

 do something

Loop While a condition is true

1. Do While a condition is true

 do something

Loop

1. For index = start to stop

 do something

Next index

The Do-Loop While will go through the loop at least once and check the condition at the end.

The Do While-Loop will check the condition before the loop starts. It may never go through the loop if the condition is false.

The For-Next loop has a start and stop, so you know exactly how many times the loop will iterate. A For-Next loop needs a variable to count each iteration. I called our variable index.

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**Char** is a built in data type like Integer and double. A **Char** holds **one** character. **Char** shares methods with the **String** class.

**String Class**

A String is any characters inside double quotes (" ").

The String class has **methods** that allow you to change String objects.

Dim name as String = "Andrew"

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| A | n | d | r | e | w |
| 0 | 1 | 2 | 3 | 4 | 5 |

The computer looks at each character in a string as a separate index number, starting with **0** and ending at the **one less** than the number of characters in the string.

\*stringName**.Chars(index) –** gives one character in the string at the index.

\*stringName**.Length**

\*stringName**.ToUpper**

stringName**.ToLower**

\*stringName**.PadLeft(length, Char to put in)**

stringName.**Substring(startPosition, number of Characters)**

\*stringName.**Remove(startPosition, number of Characters)**

stringName.**Replace(oldString, newString)**

\*stringName.**Insert(startPosition, substring)**

stringName.**IndexOf(Char or Substring)**

String **Concatination** – adding strings together using &

**For-Next Loop**

Dim word as String ="banana"

Dim letter as Chars = "a"

Dim index, num as Integer

**for index= 0 to word.Length-1**

 if word.Chars(index) = letter Then

 num+=1

 end if

**Next index**

lblCount.text = num

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For-Next – you know where to start & stop

For index = 0 to SECRET\_WORD.length-1

 if chars(index)=letter then

 put it in the blank

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