Do Loop

- A **loop** is a VB structure used to repeat a sequence of statements a number of times.
- Repetitions of this sequence are called **passes**, or **iterations**.
- A Do statement precedes the sequence of statements, and a Loop statement follows the sequence.
Do While Loop

Do While condition statement(s)

Loop

Is the Condition True?

Y

Execute the statements within the loop.

N

Execute statements that follow the loop.
Do Until Loop

Do
statement(s)
Loop Until condition

Execute statements within the loop

Is the condition true?

No

Yes

Execute statements that follow the loop
Example of a Do While Loop

Private Sub cmdDisplay_Click()
    Dim intNum As Integer
    'Display numbers from 1 to 10
    intNum = 1 'Initialize intNum
    Do While intNum <= 10
        picDisplayNumbers.Print intNum;
        intNum = intNum + 1
    Loop
End Sub
Example of a Do Until Loop

Private Sub cmdDisplay_Click()
    Dim intNum As Integer
    'Display the numbers from 1 to 10
    intNum = 1 'Initialize intNum
    Do
        picNumbers.Print intNum;
        intNum = intNum + 1
    Loop Until intNum > 10
End Sub
Counters and Accumulators

• A *counter* is a numeric variable used to keep track of the number of list items that have been processed so far.

• An *accumulator* is a numeric variable used to store the current total of processed numbers from a list.
Flags and the EOF function

• A flag is a variable used to keep track of whether a certain situation has occurred. Flags tend to be variables of type Boolean.

• The EOF function is used to determine whether the end of a file has been reached. “EOF” stands for “End Of File”. The argument of the EOF function is the file’s reference number, so its call has the format

EOF(n)

where $n$ is an integer number.
Example

Private Sub cmdDisplay_Click()
    Dim nom As String, phoneNum As String
    Dim fileName As String
    picNumbers.Cls
    fileName = InputBox(“Enter the file name”, ”Hi!”)
    fileName = App.Path & “\” & fileName
    Open fileName For Input As #1
    Do While Not EOF(1)
        Input #1, nom, phoneNum
        picNumbers.Print nom, phoneNum
        Loop
    Close #1
End Sub
Nested Loops

• The statements within a Do loop are allowed to contain other Do loops. This configuration is referred to as *nested loops*. 