

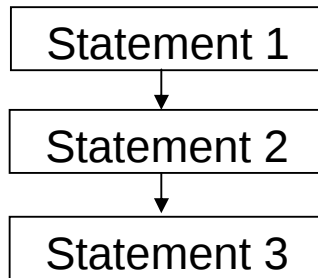
Chapter - 5

Visual Basic Control Structures

CONTROL FLOW

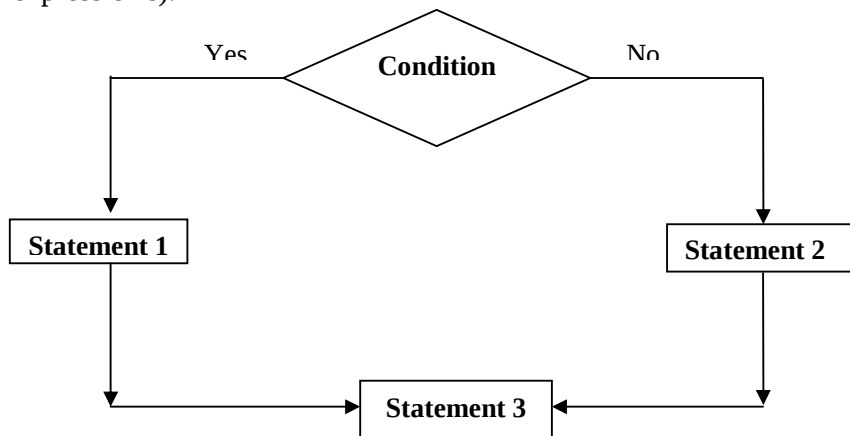
1) SEQUENTIAL:

It means the statements are being executed sequentially. This represents default flow of statements.



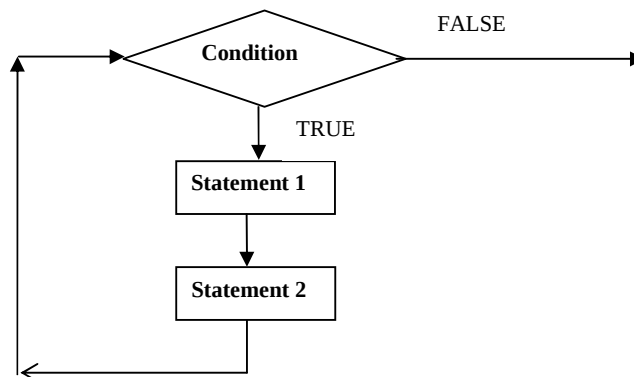
2) SELECTION (Decision construct)

Selection construct select their course of action depending upon the result of a condition's) or Boolean expression's).



3) ITERATION (Repetition)/ Looping :

Iteration means repetition of a set-of-statement depending upon a condition test. A loop is a set of statements that are repeated a certain number of times. The block of statements written in between the loop gets executed as many number of times as the user wants



Rules for using Iteration: The 3 steps involve in a loop are:

- | | |
|------------------|---|
| - Initialization | - of counter variable |
| - Test condition | - for testing the value of the counter variable |
| - Updation | - Increase/decrease the value of counter variable |

Two Forms of SELECTION CONSTRUCT -

✓ Two Way Branching

IF Statement

- o If Then End If
- o If Then ... Else End If
- o Nested If
- o If.... Then Else If End IF
- o IIF (exp1, <true>, <false>)

✓ Multi Way Branching

Select Case : It can be used with the following 3 forms:

- Exact Match
- A Relational Case Match
- A Range of Case Match

Various Forms of LOOPING CONSTRUCT –

▪ Entry controlled / Pre tested / Top tested Loops :

Condition is tested first then if it is true the body of loop executes.

NOTE: *This type of loops executed for zero or more times.*

- o While Wend
- o Do while Loop
- o Do Until Loop
- o For Next

▪ Exit controlled / Post tested / Bottom tested Loops :

Body of loop executed once and then condition is tested, if it is true body of loop continues.

NOTE: *This type of loops executed at least once.*

- o Do Loop While
- o Do Loop Until

▪ For Each Next

ARRAY: Arrays is a group of homogenous elements.

- An array is a collection of variables of the same data type that are referenced by a common name.

Arrays are of Two Types:

- 1) Fixed / Static size Array: Those arrays in which the no. of elements is fixed and does not vary.
- 2) Dynamic size Array : Dynamic arrays are those arrays whose no. of elements can be varied.

Declaration of Array:

- | | | | |
|--------------|---|---------------------------------|----------------------------|
| Fixed size | - | Dim ArrayName(size) as DataType | Eg: Dim arr(4) as Integer |
| Dynamic size | - | Dim ArrayName() as DataType | Eg: Dim arr1() as Integer |

Zero – based and One – based Indexing :

If an array is declared as arr(4) it means we count these element from 0 to 4 ie. 5 elements, so this is known as Zero – based Indexing.

And if an array is declared as arr(1 to 5) it means we count these element from 1 to 5 ie. 5 elements, so this is known as One – based Indexing.