VBA VARIABLES

Variables are specific values that are stored in a computer memory or storage system. Each variable must be given a name.

To name the variable in VBA, you need to follow the following rules:

- It must be less than 255 characters
- No spacing is allowed
- It must not begin with a number
- Period is not permitted

In VBA, we need to declare the variables before using them by assigning names and data types. Variables are either declared Implicitly or Explicitly.

- Implicitly: `label = young01; volume = 4`
- Explicitly: `Dim Num As Integer; Dim password As String`

VBA variable is no different than other programming languages. To declare a variable in VBA, you use the keyword "`Dim`."

Example,

```
Sub Macro1 ( )
  Dim Num As Integer
  Num = 01
```

```
    MsgBox "Young" & Num
End Sub
```

VBA Data Types

Computer cannot differentiate between the numbers (1, 2, 3, …) and strings (a, b, c, …). To make this differentiation, we use Data Types. VBA data types can be segregated into two types: Numeric data types and Non-numeric data types.

Number Data Types

Type	Storage	Range of Values
Byte	1 byte	0 to 255
Integer	2 bytes	-32,768 to 32,768
Long	4 bytes	-2, 147, 483, 648 to 2, 147, 483, 648
Single	4 bytes	-3.402823E+38 to -1.401298E-45 for negative values 1.401298E-45 to 3.402823E+38 for positive values
Double	8 bytes	-1.79769313486232E+308 to -4.94065645841247E-324 for negative values 4.94065645841247E-324 to 1.79769313486232E+308 for positive values

Currency	8 bytes	-922, 337, 203, 685, 477.5808 to 922, 337, 203, 685, 477.5808

Non-Numeric Data

Type	Bytes Used	Range of Values
String (fixed length)	length of string	1 to 65,400 characters
String (variable length)	length + 10 bytes	0 to 2 billion characters
Boolean	2 bytes	True or False
Date	8 bytes	January 1, 100 to December 31, 9999
Object	4 bytes	Any embedded object
Variant (numeric)	16 bytes	Any value as large as double
Variant (text	length + 22 bytes	Same as variage length string

Constant in VBA

Constant is like a variable, but you cannot modify it. To declare a constant in VBA you use keyword `Const`.

There are two types of constant:

- Built-in or intrinsic provided by the application

- Symbolic or user defined

You can either specify the scope as private by default or public. For example,

```
Public Const DaysInYear = 365
Private Const Workdays = 250
```