

Variables

Naming Variables

Variables follow the same naming convention as Subroutines:

- Must be less than 255 characters
- Use only letters, numbers or underscores
- No spaces allowed (either use CamelCase or use_underscores)
- Cannot begin with a number

There is a notation (though unofficial) called the Leszynski, or Hungarian notation, that suggests prefixing names of variables, objects etc. with an abbreviation of what they are:

- intMyCounter As Integer int indicating this is type Integer
- frmMyForm frm indicating this is a form
- ModTheBasics Mod indicating this is a Module

More here: https://en.wikipedia.org/wiki/Leszynski_naming_convention

The Scope of a Variable

Scope simply means **where can you see it**. The scope of a variable is determined when you declare it:

- **Procedure Level** Can be used only in the Sub it's declared in* Declared with **Dim**
- **Module Level** Can be used anywhere in the current module. Declared with **Dim**
- **Project Level** Can be used anywhere in the current project. Declared with **Public**

*Can be passed to another sub if the code is modified (see lecture Variables - Local Variables With A Twist)

The Lifetime of a Variable

- **Local Dim** Destroyed at **End Sub** of the Sub in which it was declared, or **End** statement
- **Module Dim** Destroyed at:
 - Workbook Close
 - "Stop" is hit in the VBE
 - A new Sub is added to the Module
 - **End** statement
- **Proc Public** Destroyed at End Sub of the module in which it was declared, or "End" statement

Assigning a Value to a Variable

Before a Variable is useful, we need to put something in it!

Hard Coded strMyString = "Hello World"

Dynamically coded strMyString = Range("A1").Value

Data Types of Variables

Type	Description	Memory allocated
Boolean	TRUE or FALSE	2 bytes
Integer	A whole number between -32768 and 32767	2 bytes
Long	2,147,483,648 to 2,147,483,647	4 bytes
Single	-3.4028235E+38 through -1.401298E-45 † for negative values; 1.401298E-45 through 3.4028235E+38 † for positive values	4 bytes
Double	-1.79769313486232E308 to -4.94065645841247E-324 for negative values; 4.94065645841247E-324 to 1.79769313486232E308 for positive values	8 bytes
Currency	-922,337,203,685,477.5808 to 922,337,203,685,477.5807	8 bytes
Date	January 1, 100 to December 31, 9999	8 bytes
String	Text	10 bytes + string length
Variant	Anything at all	>16 bytes

Syntax for Declaring a Variable

Dim X As Integer Can be used **Locally** (in Sub), or **Module** level (**Declarations Section**)

Public Y As Long Used at **Project** level (in the **Declarations Area**)

You can declare multiple variables on the same line:

Dim X As Integer, Y As Long (All must be **Dim** in this instance)

Public X As Integer, Y As Long (All must be **Public** in this instance)

For more information, see the Microsoft article below:

<https://support.microsoft.com/en-gb/kb/843144>