

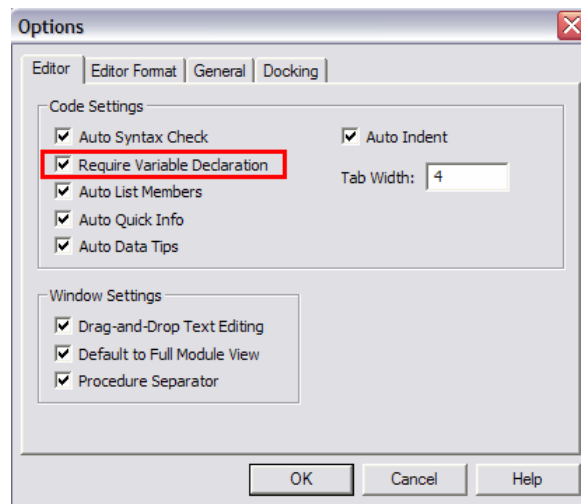
VBA Tip – Variable Declaration

Declare all your variables

VBA does not require you to declare any variables, but it is highly recommended that you do so. Variables that are not declared are set to the `Variant` type. Do not use the `Variant` data type unless absolutely necessary. Using all `Variant` types can cause many different problems in your code including:

- Attempting to pass variables by reference to another `Sub`, `Function`, etc. that require explicitly declared data types.
- Interpreting a value incorrectly
 - VBA has to make it's best guess and sometimes it guesses incorrectly
- Decrease the overall performance of your application

How do you stop this? Require variable declaration in all of your VBA modules. From the VBA menu bar select **Tools -> Options** to display the following dialog box.



Select the “Require Variable Declaration” checkbox and click on the **OK** button. When that option is selected every new form, module, and class created will start with the `Option Explicit` statement. To enforce variable declaration in existing modules you will need to manually place an `Option Explicit` statement at the top before any procedures.

Another insidious error that can occur when you don't use `Option Explicit` is mis-typing variable names. Look at the common variable name `iCount` as an example. For those of us who are not expert typists this can easily be mis-typed as `iCountt`, `iCout`, or some other variation. Without requiring variable declaration VBA will allow all of these variations to pass through compilation. Trying to find this kind error can be very time consuming and frustrating. By using the `Option Explicit` statement in every code module VBA will catch this type of error automatically every time.



MICROSTATION | INROADS
AUTOCAD | CIVIL3D | CAICE

CONSULTING • PROGRAMMING • SUPPORT • TRAINING • VISUALIZATION

8517 Excelsior Drive Suite 102 | Madison WI 53717
Phone [608] 836 3903 | Fax [608] 662 9043
TheEnvisionGroup.net

Using the `Dim` statement correctly

Now that you are required to declare all of your variables make sure you do it correctly. General VBA coding guidelines promote the one variable per line standard as follows:

```
Dim X As Double  
Dim Y As Double  
Dim Z As Double
```

This promotes legibility and decreases the likelihood of mis-declaration. Compare the above method with the following uses of the `Dim` statement for declaring multiple variables on the same line:

```
Dim X, Y, Z As Double  
Dim X As Double, Y As Double, Z As Double
```

Contrary to what you might think, these are not the same. In the first line only the variable `Z` is declared `As Double`. The `X`, `Y` variables are declared `As Variant`. The second line correctly declares all three variables `As Double`.

[The Envision Group, Inc.](http://TheEnvisionGroup.com) is a small business corporation with an 11-year history of providing CADD training and consulting, IT programming and support, and 3-D virtual modeling for government and private organizations both nationally and internationally.