IENG314 / MANE314 Operations Research – II VBA – Session 4

Other Variable Types in Excel VBA

Excel VBA data types can be grossly divided into various types as shown in this table:

Variable Type Name	Variable Values
Byte	Whole numbers between 0 and 255 no fractions
Integer	Whole numbers from -32,768 to 32,767, no fractions
Long	Whole numbers from -2,147,483,648 to 2,147,483,647, no fractions
Single	Numbers with seven digits of precision from negative 3.402823E38 to positive 3.402823E38
Double .	Numbers with fifteen digits of precision from negative 1.79769313486232E308 to positive 1.79769313486232E308
Currency	Fixed decimal point number from negative 922,337,203,685,477.5808 to positive 2,337,203,685,477.5807
Date	January 1 0000 to December 31 9999
String	Character string. On 16-bit systems - 0 to approximately 65,000 characters. On 32-bit systems - 0 to 2E-32

Create a new Sub in a coding window



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When you run your Sub, though, you should see a message box appear:

Now change As Long to As Integer

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(General)	rowcount	•
(General) Sub rowcount() Dim NumberOfRows As Integer NumberOfRows = Worksheets(1).Rows.Count MsgBox NumberOfRows End Sub	r rowcount	
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Try running your Sub again. This time, you should see an error message:

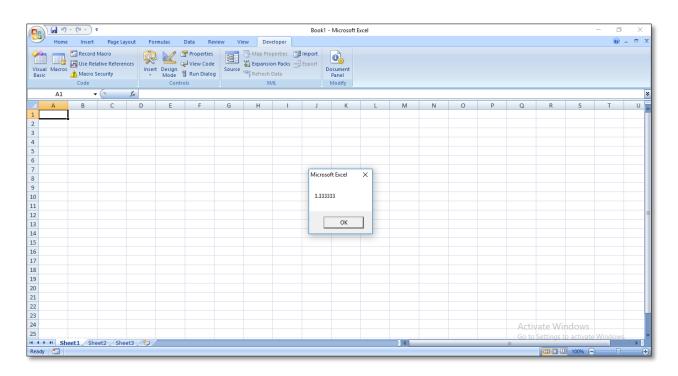
(General)	_	rowcount	-
	Sub rowcount() Dim NumberOfRows As Integer NumberOfRows = Worksheets(1).R	ows.Count		•
	MsgBox NumberOfRows	Microsoft Visual Basic		
	End Sub	Run-time error '6': Overflow		
		Continue End Debug	Help	
	End Sub			
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The error is **Overflow**. You get this error because the value you're trying to store in your variable is too big for the variable type.

Add a new Sub and call it Floats.

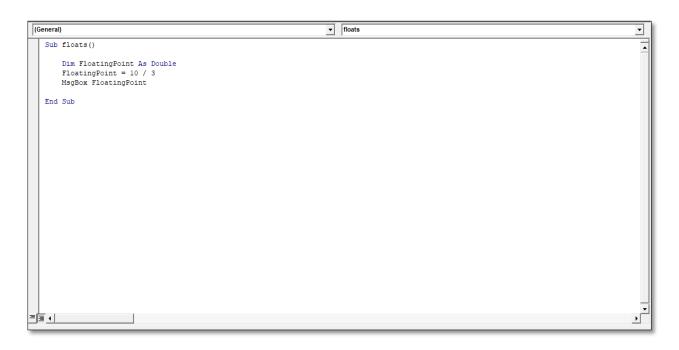
	(General) 💌 floats	•	1
	Sub floats()	•	
	Dim FloatingPoint As Single FloatingPoint = 10 / 3 MsgBox FloatingPoint		
	End Sub		
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After running this sub, you should see a Message Box appear



The value in the variable called **FloatingPoint** is being displayed in the Message Box. It is showing the answer to 10 divided by 3 to six decimal places

Now change your code:



Run your code again and the Message Box will display the following:

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Change your code to this:

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	Sub test()	-	-
	Dim FloatingPoint As Single FloatingPoint = WorksheetFunction.Pi MsgBox FloatingPoint		
	End Sub		
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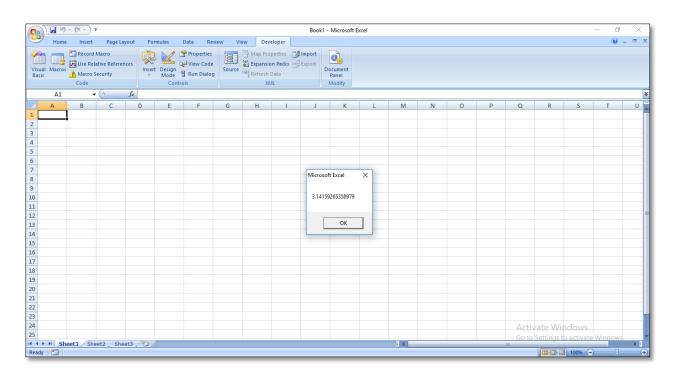
When you run your code, the Message Box will be this.

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Now change As Single to As Double.

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[General] Sub test() Dim FloatingPoint As FloatingPoint = Works MsgBox FloatingPoint End Sub	 r test	
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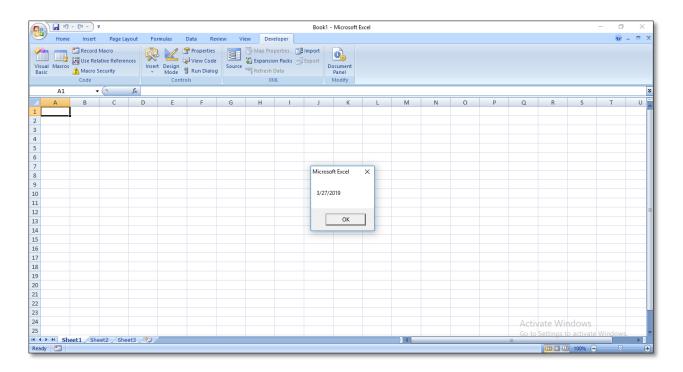
When you run your code this time, the Message Box will be as follows



In order to define a Date variable in Excel Macro, the following procedure should be done:

(General)	▼ dates	•
Sub dates() Dim x As Date x = \$3/27/2019 MsgBox x		-
End Sub		

Run the code and this message will come:



To show the current date, "date" is used:



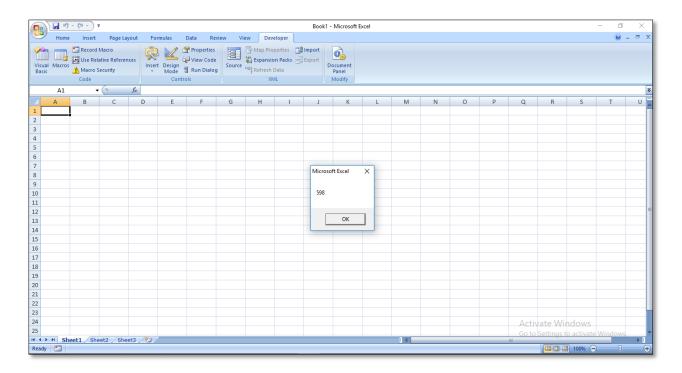
After clicking run button, current date will be shown:

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If we want to find out the number of days between two dates, we can use subtraction:

(General)	▼ dates	•
(General) Sub dates() Dim x As Date Dim z As Integer x = Date y = #3/17/2016# z = x - y MsgBox z End Sub	dates	
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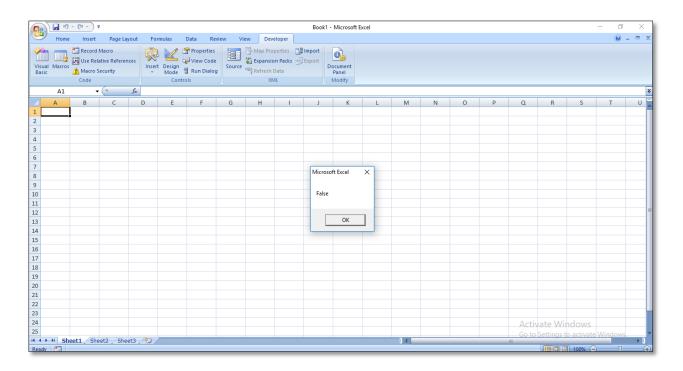
After running sub, the Message Box will display the following



In order to define a Boolean variable, following procedure should be done

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	Sub test() Dim x As Boolean x = (4 = 3) MsgBox x	•	
	End Sub		
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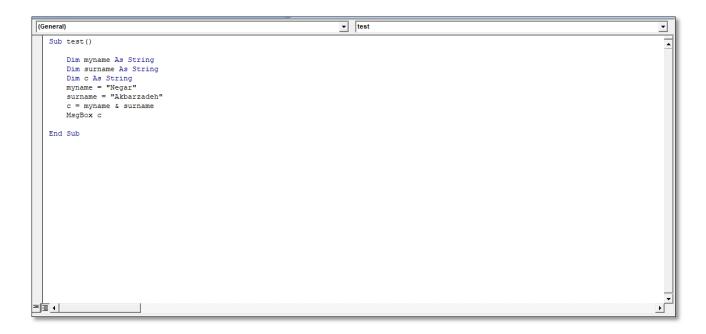
Click on run, and this message will come up.



Variant is used when you're not sure what value will be returned. It can hold numbers, text, and objects. However, using it too much can slow down your programs.

If you want your variables to hold strings of text then the variable type to use is As String.

Write a code which shows your name.



After running, this is shown:

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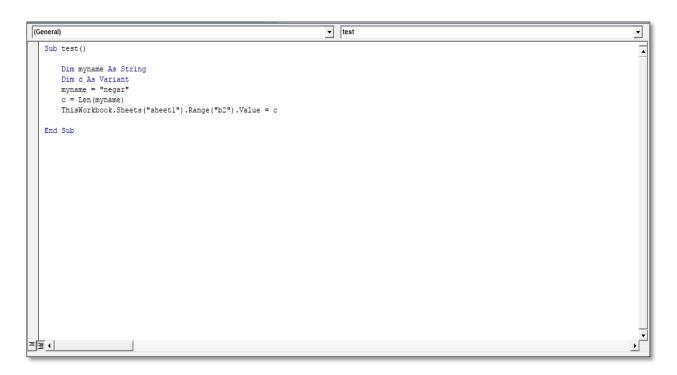
The Len function is used to get how many characters a string has.

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	Sub test() Dim myname As String myname = "negar"	•
	MsgBox (Len(myname)) End Sub	
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Run the code and you'll find that the message box displays the number of your name.

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We want to write a code that changes the cell value as length of our string.



Run the code and this will be sheet1.

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