AT VERY TOP OF CODE FILE
Option Explicit On
Imports System
Imports System.Diagnostics
Imports System.Threading

CAPITALIZATION CONVENTIONS
Variables: myVariableName
Constants: MyConstantName

CASTING
CBool, CByte, CChar, CDbI, dint, CLng, SShort, CStr

CONDITIONALS
If i > 2 Then
  'statements
End If

If i > 2 Then
  'statements
Else
  'statements
End If

Dim myVar As Integer
Select Case myVar
  Case 0
    'statements
  Case 1
    'statements
  Case Else
    'statements
End Select

LOOPS
For i = 2 To 10
  'statements
Next
Do While myVariable <= 10
  'statements
End While

'LOGIC OPERATORS
Not, And, Or, Xor

RELATIONAL OPERATORS
=, <>, >, >=, <, <=

ARITHMETIC OPERATORS
+, -, *, /, \ (integer division), ^ (exponentiation), & (string concatenation), Mod (remainder)

BINARY OPERATORS
And, Not, Or, Xor, <<, >>

MATH
Dim myVariable As Double
myVariable = Math.PI
Math.Round(myVariable)
Math.Round(myVariable, 2) '2 places

DATE & TIME
Dim myTime As Date = Now
Dim myStr As String
myStr = FormatDateTime(myTime, DateFormat.GeneralDate).
GeneralDate, .LongDate, .ShortDate, .LongTime, .ShortTime

Dim myTime As DateTime = DateTime.Now
MsgBox(myTime & vbNewLine & myTime.Month)
http://msdn.microsoft.com/en-
us/library/system.datetime_properties.aspx

MISCELLANEOUS
Console.WriteLine("i = " & i)
Variables auto initialize to 0
myVariable += 1
Visual Basic Reference
http://msdn.microsoft.com/en-
us/library/sh9ywfdk.aspx

With mySerialPort
  .PortName = "COM10"
  .BaudRate = 34800
End With
xx
DECLARING VARIABLES AND CONSTANTS

Dim myVariable As Integer = 5
Dim myString As String = "My string"
Const Pi As Single = 3.141592653

DATA STRUCTURE

Structure Result
  Public name As String
  Public n As Integer
  Public x As Single
End Structure

Dim expt1 As Result
  expt1.name = "Experiment 1"
  expt1.n = 5
  expt1.x = 3.1

ARRAYS

Dim myArray(10) As Integer 'range is 0 to 10, size=11
Dim myArray() As Integer = {2, 4, 6, 8, 10}
  myArray(2) = 6
Dim myArray(4, 4) As Integer
Dim matrixA(,) As Single
  matrixA = {{0.2, 1.1}, {4.5, 6.5}}


DATA TYPES

Floating-point

<table>
<thead>
<tr>
<th>VB</th>
<th>.NET</th>
<th>Bits</th>
<th>Precision</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>System.Single</td>
<td>32</td>
<td>7 digits</td>
<td>1.5E-45 to 3.4E38</td>
</tr>
<tr>
<td>Double</td>
<td>System.Double</td>
<td>64</td>
<td>15 digits</td>
<td>5.0E-324 to 1.7E308</td>
</tr>
<tr>
<td>Decimal</td>
<td>System.Decimal</td>
<td>128</td>
<td>28 places</td>
<td>1E-28 to 7E28</td>
</tr>
</tbody>
</table>

Other

<table>
<thead>
<tr>
<th>VB</th>
<th>.NET</th>
<th>Bits</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean</td>
<td>System.Boolean</td>
<td>32</td>
<td>True or False</td>
</tr>
<tr>
<td>Date</td>
<td>System.DateTime</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>String</td>
<td>System.String</td>
<td>variable</td>
<td>Unicode string</td>
</tr>
</tbody>
</table>

KEYBOARD SHORTCUTS

F7           Shift to design view
Shift-F7      Shift to code view

F5           Run project in debugger
Ctrl-F5       Run project without debugger
F8           Single step, enter functions
Shift-F8      Single step, goes over functions