**Computer Programming 1  
Essential Standard 5.04** Apply Decision Making Structures

**Anatomy of a Decision Structure**

**Syntax of an If…Then Syntax of a Select Case**

**If** (*Boolean Expression*) **Then** **Select Case** *Variable*  
 *Statements* **Case** *Value*  
 **End If** *Statements*

**Case** *Value, Value, Value*

**Syntax of an If…Then…Else** *Statements*

**Case** *LowValue* **To** *HighValue*

**If** (*Boolean Expression*) **Then** *Statements*  
 *Statements* **Case Is >** *Value*  
 **Else** *Statements*

*Statements* **Case Else**  
 **End If** *Statements*

**End Case**

**Syntax of an If…Then…ElseIf**

**If** (*Boolean Expression*) **Then Short Circuiting**  
 *Statements*  
 **Else If** (*Boolean Expression)*  **If** BooleanExp1 **AndAlso** Boolean Exp2

*Statements Statements* … **End If**  
 **Else**

*Statements*  **If** BooleanExp1 **OrElse** Boolean Exp2  
 **End If** *Statements*

**End If**

**Practice the Decision Structure**

Write the appropriate code for each expression.

1. intAge is between 15 and 18
2. dbGpa is greater than or equal to 3.2
3. dblGrade is higher than 92.5.
4. dblGpa is great than 3.0 and intSat is greater than 1150
5. dblGrade is higher than 92.5, display in lblMessage “Awesome!”  
   dblGrade is higher than 85, display in lblMessage “Good Work.”  
   dlbGrade is higher than 70, display in lblMessage “Keep Working”  
   otherwise, display in lblMessage “Study More”
6. Write the appropriate Select Case structure that would represent the following table.

|  |  |
| --- | --- |
| **Wind Speed Range** | **Display in lblMessage** |
| Less Than 74 | This is a Tropical Storm |
| 74 – 95 | This is a category 1 hurricane |
| 96 – 110 | This is a category 2 hurricane |
| 111 – 130 | This is a category 3 hurricane |
| 131 – 155 | This is a category 4 hurricane |
| Over 155 | This is a category 5 hurricane |

**Find the Errors & Rewrite**

**Find the syntax or logic error.**

1. If 10 < intAge > 12 Then  
    Me.lblMessage.Text = “You are a preteen”  
   End If
2. If intScore > 100 Then  
    Me.lblMessage.Text = “Practice”  
   else If intScore > 300 Then  
    Me.lblMessage.Text = “Good Try”  
   else if intScore > 500 Then  
    Me.lblMessage.Text = “You win”  
   End If
3. Select Case intNum  
    Case 1 Or 2  
    Me.lblMessage.Text = “Great”  
    Case < 5  
    Me.lblMessage.Text = “Good”  
    Case 6 <= intNum <= 10  
    Me.lblMessage.Text = “Keep Trying”  
   End Select

**Rewrite the Code**

1. Rewrite the following code so that you are using a compound If Statements.  
   If intX > 0 Then  
    If intY < 100 Then  
    Me.lblMessage.Text = “X is greater than 0 and Y is less than 100.  
    else  
    Me.lblMessage.Text = “X is less than or equal to 0 and Y is less than 100.  
    End If  
   End If