Lecture Notes – Session 14 – IS201 - Exam Review
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Area

```
Sub Area()
    Dim height As Double
    Dim width As Double

    'Clear the output in case of error
    Range("B3").ClearContents

    'Check for missing height
    If IsEmpty(Range("B1").Value) Then
        MsgBox "Height required!"
        Exit Sub
    End If

    'Check for missing width
    If IsEmpty(Range("B2").Value) Then
        MsgBox "Width required!"
        Exit Sub
    End If

    'Read the input
    height = Range("B1").Value
    width = Range("B2").Value

    'Generate the output
    Range("B3").Value = height * width
End Sub
```

Sentence

```
Sub Sentence()
    Dim name As String
    Dim temp As Double
    Dim attire As String

    'Get the inputs
    name = Range("B2").Value
    temp = Range("B3").Value

    'Determine the attire
    If temp <= Range("D2").Value Then
        attire = Range("E2").Value
    ElseIf temp <= Range("D3").Value Then
        attire = Range("E3").Value
    ElseIf temp <= Range("D4").Value Then
        attire = Range("E4").Value
    ElseIf temp <= Range("D5").Value Then
        attire = Range("E5").Value
    Else
        attire = Range("E6").Value
    End If

    'Compose the sentence  ( Can also use WorksheetFunction.Proper() )
    Range("B8").Value = StrConv(name, vbProperCase) & " wore a " & LCase(attire) & _
        " because it was " & Trim(Str(temp)) & " degrees outside."
End Sub
```

Sentence Using Loop

```vb
Sub Sentence()
    Dim name As String
    Dim temp As Double
    Dim attire As String
    Dim i As Integer

    'Get the inputs
    name = Range("B2").Value
    temp = Range("B3").Value

    'Determine the attire
    For i = 2 To 6
        If temp <= Cells(i, 4) Then
            Exit For
        End If
    Next i
    attire = Cells(i, 5).Value

    'Compose the sentence
    Range("B8").Value = StrConv(name, vbProperCase) & " wore a " & LCase(attire) & "
because it was " & Trim(Str(temp)) & " degrees outside."
    ' Could also use WorksheetFunction.Proper()
End Sub
```

```
Sub Translate()
    'Variables for label translation
    Dim lastRow As Integer
    Dim letter As String
    Dim i As Integer, j As Integer
    Dim label As String

    'Variables for length calculations
    Dim length As Integer
    Dim count As Integer
    Dim sum As Long
    Dim min As Integer
    Dim max As Integer

    'Clear the counts
    For i = 2 To 6
        Cells(i, 5).Value = 0
    Next i

    'Find the end of the input
    lastRow = Cells(2, 1).End(xlDown).Row

    'Clear summary info
    count = 0
    sum = 0
    min = 1000
    max = 0

    For i = 2 To lastRow
        'Convert letter to label
        letter = LCase(Left(Cells(i, 1), 1))
        j = 2
        Do Until i = 6 Or letter = LCase(Left(Cells(j, 4), 1))
            j = j + 1
        Loop
        label = Cells(j, 4).Value
        Cells(i, 2) = label

        'Increment the count
        Cells(j, 5) = Cells(j, 5) + 1

        'Accumulate the summary info
        length = Len(label)
        count = count + 1
        sum = sum + length
        If min > length Then
            min = length
        End If
        If max < length Then
            max = length
        End If
    Next i

    'Report Summary
    Range("H2").Value = min
    Range("H3").Value = max
    Range("H4").Value = sum / count

End Sub
```

3