

Lecture Notes – Session 10 – IS201

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Conditionals

Option Explicit

Sub Doctor()

Dim complaint As String

complaint = InputBox("What is your complaint?", "Doctor")

MsgBox GetTreatment (complaint)

End Sub

Public Function GetTreatment(symptom As String) As String

If symptom = "Hay Fever" Then

GetTreatment = "Take some allergy medicine."

Elseif symptom = "Sore Throat" Then

GetTreatment = "Gargle salt water."

Else

GetTreatment = "Go see a real doctor."

End If

End Function

Select Case

Public Function GetTreatment(symptom As String) As String

Select Case symptom

Case "Hay Fever": GetTreatment = "Take some allergy medicine."

Case "Sore Throat": GetTreatment = "Gargle salt water."

Case Else: GetTreatment = "Go see a real doctor."

End Select

End Function

Basic Looping

Sub DoctorVisit()

Dim symptom As String

Dim continue As Integer

Do

symptom = InputBox("What seems to be the problem?", "Doctor")

MsgBox GetTreatment(symptom)

continue = MsgBox("Do you have another complaint?", vbYesNo)

Loop Until continue = vbNo

End Sub

Sub DoctorVisit()

Dim symptom As String

Dim continue As Integer

continue = vbYes

```

While continue = vbYes
    symptom = InputBox("What seems to be the problem?", "Doctor")
    MsgBox GetTreatment(symptom)
    continue = MsgBox("Do you have another complaint?", vbYesNo)
Wend
End Sub

```

Variations:

- Do Until Loop
- Do Loop Until
- Do While Loop
- While Wend

For Loop

```

Sub TimesTable()
    Dim x As Integer
    Dim y As Integer
    For x = 1 To 12
        For y = 1 To 12
            Cells(x, y) = x * y
        Next y
    Next x
End Sub

```

For Each Loop

```

Sub FillWithJoy()
    Dim cell As Variant
    For Each cell In Range("A1:D12")
        cell.Value = "Joy"
    Next cell
End Sub

```

Syntax Clarity

```

Sub Phred()
    Dim i As Integer
    Dim b As Boolean
    i = 5
    If i = 5 Then
        MsgBox "i is 5"
    End If
    b = i = 5
    MsgBox "b is " & Str(b)
End Sub

```

```

Sub Sample()
    Dim i As Integer
    Dim o As Object
    Dim cell As Object
    i = 5
    Set o = Range("A1:B2")
    For Each cell In o
        cell.Value = i
    Next cell
End Sub

```

Excel Objects, Properties, and Methods

- Objects
 - ThisWorkbook
 - Sheets
 - ActiveSheet
 - Cells
 - ActiveCell
 - Range
 - Application
- Methods
 - Cell.Activate
 - Range.Select
 - Cell.End(xlDown)
 - xlUp, xlToLeft, xlToRight
 - Range.ClearContents
 - Range.ClearFormats
- Properties
 - Cell.Value
 - Cell.Row
 - Cell.Column
 - Cell.Address
 - Cell.Font.Bold
 - Cell.CurrentRegion
 - Cell.Formula
 - Range.Columns
 - Range.Rows
 - Range.ColumnWidth
 - Range.Offset
 - Range.VerticalAlignment
 - Font.Color
- How to
 - Transfer values between cells and variables
 - Move the active cell around
 - Assign subroutine (Macro) to a button

Reorganize Data Example

Start with the "Cities Spreadsheet" in Content – Data Sets

Option Explicit

Sub Reorganize()

Dim citiesSheet As Worksheet

Dim tableSheet As Worksheet

Dim i As Integer

Set citiesSheet = Sheets("Cities")

Set tableSheet = Sheets.Add(, citiesSheet)

tableSheet.Name = "Table"

tableSheet.Range("A1").Value = "City"

tableSheet.Range("A1").Font.Bold = True

tableSheet.Range("B1").Value = "State"

tableSheet.Range("B1").Font.Bold = True

i = 2

citiesSheet.Activate

Range("A1").Activate

Do Until IsEmpty(ActiveCell.Value)

tableSheet.Cells(i, 1) = ActiveCell.Value

ActiveCell.Offset(1, 0).Activate

tableSheet.Cells(i, 2) = ActiveCell.Value

ActiveCell.Offset(2, 0).Activate

i = i + 1

Loop

End Sub