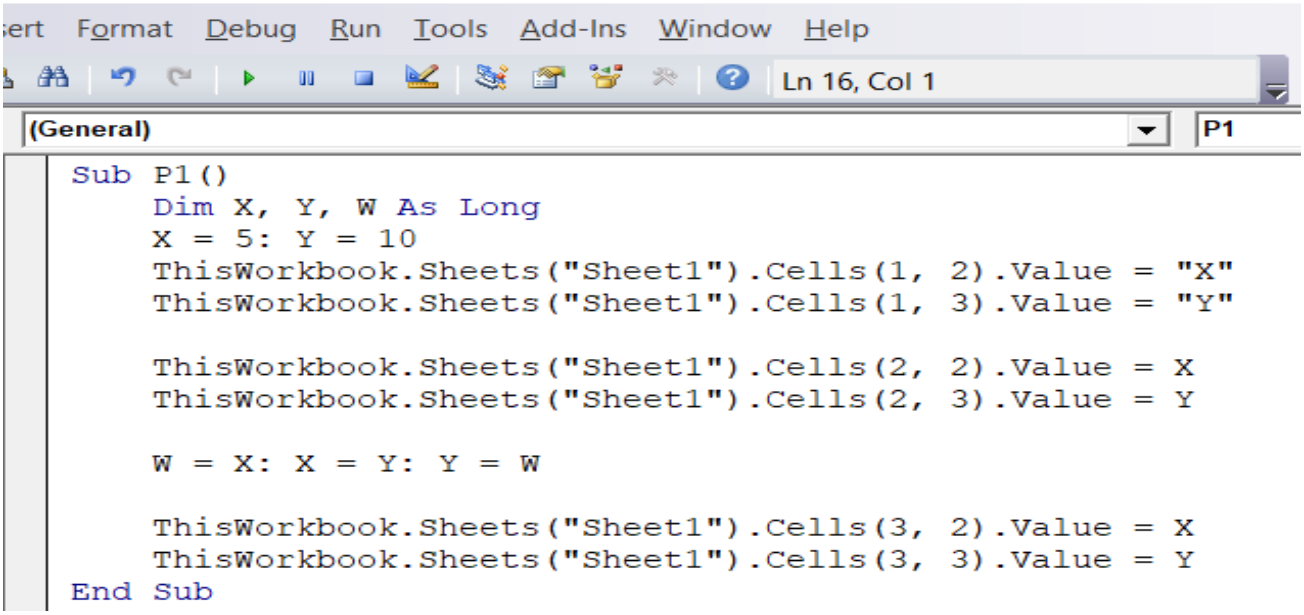
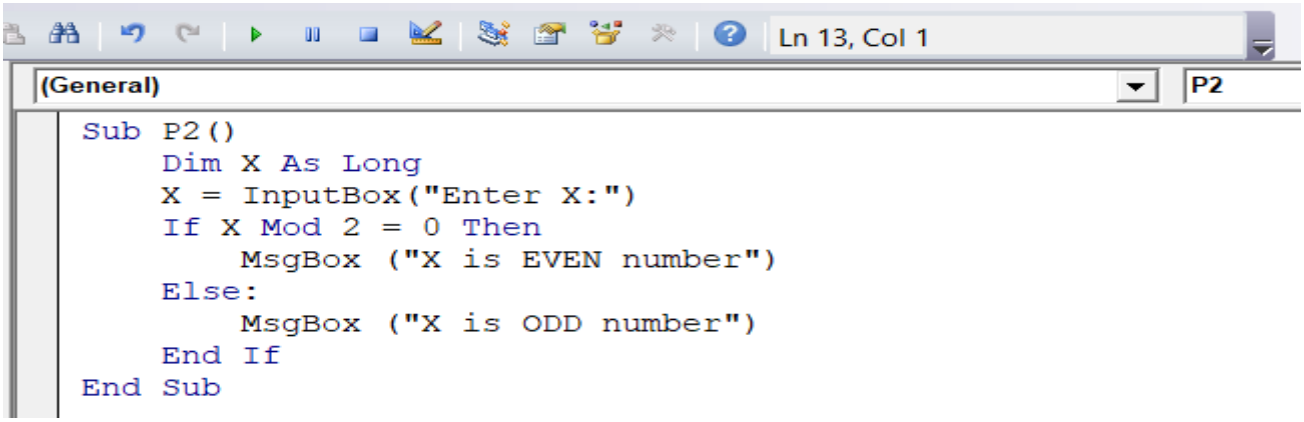
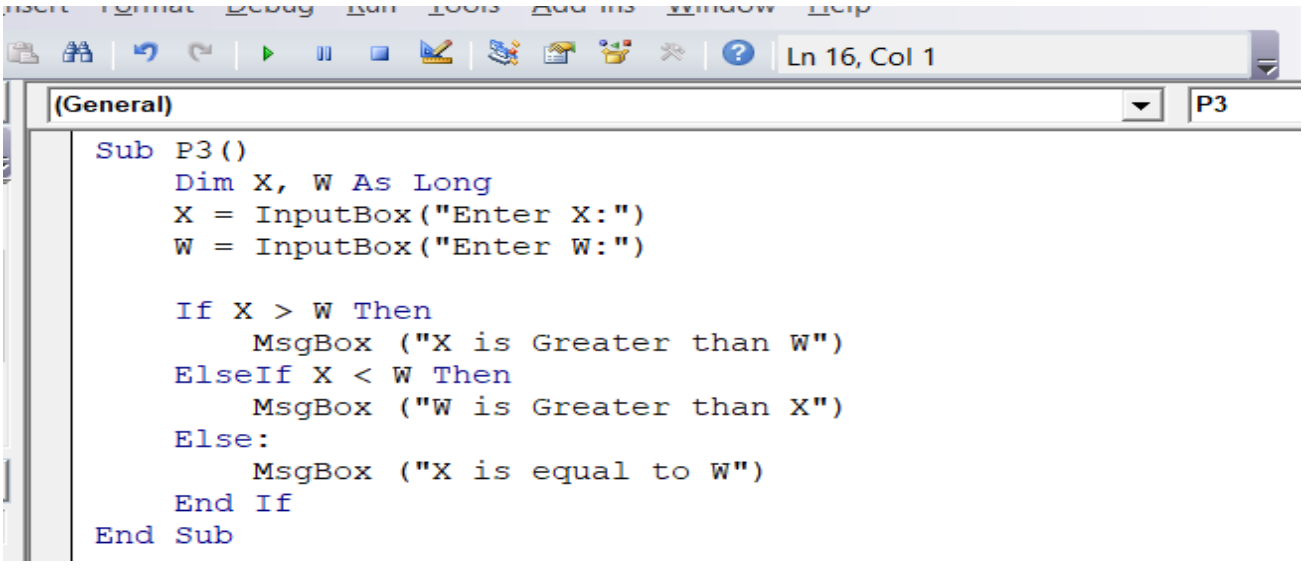
LECTURE ONE - BIOLOGY DEPARTMENT
SECOND STAGE – BY: SAIF BASHEER




```
Sub P1()
    Dim X, Y, W As Long
    X = 5: Y = 10
    ThisWorkbook.Sheets("Sheet1").Cells(1, 2).Value = "X"
    ThisWorkbook.Sheets("Sheet1").Cells(1, 3).Value = "Y"

    ThisWorkbook.Sheets("Sheet1").Cells(2, 2).Value = X
    ThisWorkbook.Sheets("Sheet1").Cells(2, 3).Value = Y

    W = X: X = Y: Y = W

    ThisWorkbook.Sheets("Sheet1").Cells(3, 2).Value = X
    ThisWorkbook.Sheets("Sheet1").Cells(3, 3).Value = Y
End Sub
```




```
Sub P2()
    Dim X As Long
    X = InputBox("Enter X:")
    If X Mod 2 = 0 Then
        MsgBox ("X is EVEN number")
    Else:
        MsgBox ("X is ODD number")
    End If
End Sub
```




```
Sub P3()
    Dim X, W As Long
    X = InputBox("Enter X:")
    W = InputBox("Enter W:")

    If X > W Then
        MsgBox ("X is Greater than W")
    ElseIf X < W Then
        MsgBox ("W is Greater than X")
    Else:
        MsgBox ("X is equal to W")
    End If
End Sub
```

LECTURE TWO - BIOLOGY DEPARTMENT
SECOND STAGE – EXCEL VBA
BY: SAIF BASHEER ALKHOJA

```
Sub Logic1()
    Dim A1, A2, A3, A4, O1, O2, O3, O4 As Boolean

    ThisWorkbook.Sheets("Sheet1").Cells(2, 2).Value = "AND GET"
    A1 = True And True: A2 = True And False: A3 = False And True: A4 = False And False
    ThisWorkbook.Sheets("Sheet1").Cells(3, 2).Value = "True And False = " + Str(A3)

    O1 = True Or True: O2 = True Or False: O3 = False Or True: O4 = False Or False
    ThisWorkbook.Sheets("Sheet1").Cells(2, 4).Value = "OR GET"
    ThisWorkbook.Sheets("Sheet1").Cells(3, 4).Value = "True Or False = " + Str(O3)
End Sub
```

```
Sub Logic2()
    Dim V, W, X, Y, Z As Double
    Dim St, St1, St2, SP As String

    SP = " ": St1 = "17": St2 = "3"
    St = St1 + St2

    MsgBox ("17 + 3 = " + St + " !!!")
    'OR This
    MsgBox (St1 + "+" + St2 + "=" + SP + St + SP + "!!!")

    St1 = "Excel": St2 = "VBA": St = St1 + SP + St2
    MsgBox (St)

    St1 = InputBox("Enter your FIRST name?")
    St2 = InputBox("Enter your LAST name?")
    St = MsgBox("Your formal email will be: " + St1 + "." + St2 + "@" + "sc.uobaghdad.edu.iq")

    V = 2 ^ 3: MsgBox ("V = " + Str(V))
    W = 16 ^ (1 / 2)
    'OR This
    W = 16 ^ 0.5: MsgBox ("W = " + Str(W))

    X = 2.5: Y = 8.31
    Z = X ^ Y
    MsgBox ("Z = " + Str(Z))
End Sub
```

```
Sub Logic3()
    Dim W As Long
    Dim X, Y, Z As Double
    Dim Result1, Result2, A, B, C, E As Boolean

    W = 22 / 7: MsgBox (W): X = 22 / 7: MsgBox (X)
    Y = 22 / 7: MsgBox ("Y = " + Str(Int(Y)))

    X = 2: Y = 8
    Result1 = X > Y: MsgBox (Result1)
    MsgBox (X = 10): MsgBox ("Y - X = 6 it is " + Str(Y - X = 6))
    Result2 = (X * 4) = Y: MsgBox (Result2)

    A = True: B = False: C = Not (True): D = Not (False)
    MsgBox ("A = " + Str(A)): MsgBox (B): MsgBox ("C = " + Str(C)): MsgBox (D)

    Result1 = Not (Y = 8 * 3): MsgBox ("Result1 = " + Str(Result1))
    Result2 = Not (Y * X = 16 Or False): MsgBox ("Result2 = " + Str(Result2))
    E = True Or (Result1 And Result2): MsgBox (E)
```

```
Sub Logic3()
    Dim W As Long
    Dim X, Y, Z As Double
    Dim Result1, Result2, A, B, C, E As Boolean

    W = 22 / 7: MsgBox ("W = " + Str(W))
    X = 22 / 7: MsgBox ("X = " + Str(X))
    Y = 22 / 7:  MsgBox ("Y = " + Str(Int(Y)))
    ''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
    X = 2: Y = 8
    MsgBox (X = 10): MsgBox ("Y - X = 6 it is " + Str(Y - X = 6))
    Result1 = X > Y: MsgBox ("Result1 = " + Str(Result1))
    Result2 = (X * 4) = Y: MsgBox ("Result2 = " + Str(Result2))
    ''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
    A = True: B = False: C = Not (True): D = Not (False)
    MsgBox ("A = " + Str(A)): MsgBox ("B = " + Str(B))
    MsgBox ("C = " + Str(C)): MsgBox ("D = " + Str(D))
    ''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''
    Result1 = Not (Y = 8 * 3): MsgBox ("Result1 = " + Str(Result1))
    Result2 = Not (Y * X = 16 Or False): MsgBox ("Result2 = " + Str(Result2))
    E = True Or (Result1 And Result2): MsgBox ("E = " + Str(E))
End Sub
```

```
Sub LOOPS1()
    Dim i As Long
    For i = 1 To 5
        ThisWorkbook.Sheets("Sheet1").Cells(2, i).Value = i
    Next i
End Sub
```

```
Sub LOOPS2()
    Dim i, J As Long
    J = 2
    For i = 3 To 8 Step 2
        ThisWorkbook.Sheets("Sheet2").Cells(J, 4).Value = i
        J = J + 1
    Next i
End Sub
```

```
Sub LOOPS3()
    Dim i, J As Long
    J = 3
    For i = 10 To 2 Step -2
        ThisWorkbook.Sheets("Sheet3").Cells(2, J).Value = i
        J = J + 1
    Next i
End Sub
```

```
Sub LOOPS4()
    Dim i, J As Long
    J = 2
    For i = 10 To 3 Step -1
        ThisWorkbook.Sheets("Sheet4").Cells(J, 4).Value = i
        J = J + 1
    Next i
End Sub
```

```
Sub Do1()
    Dim i As Long
    i = 1
    Do While i <= 5
        ThisWorkbook.Sheets("Sheet5").Cells(2, i).Value = i
        i = i + 1
    Loop
End Sub
```

```
Sub DO2() 'Sequences
    Dim i, J As Double
    i = 2: J = 2: K = 2
    Do While i <= 18
        ThisWorkbook.Sheets("Sheet6").Cells(J, 3).Value = i
        ThisWorkbook.Sheets("Sheet6").Cells(J, 4).Value = K
        i = i + 2: J = J + 1: K = K * 2
    Loop
End Sub
```

```
Sub DO3()  'More About Sequences
    Dim i, J As Double
    i = 18: J = 3: K = 128
    Do While i >= 4
        ThisWorkbook.Sheets("Sheet7").Cells(2, J).Value = i
        ThisWorkbook.Sheets("Sheet7").Cells(3, J).Value = K
        i = i - 2: J = J + 1: K = K / 2
    Loop
End Sub
```

```
Sub DO4()
    Dim i, J As Long
    i = 10: J = 2
    Do While i >= 3
        ThisWorkbook.Sheets("Sheet8").Cells(J, 4).Value = i
        i = i - 1: J = J + 1
    Loop
End Sub
```

```
Sub Summation()
    Dim i, J, SUM As Double
    J = 2: SUM = 0
    For i = 1 To 10
        ThisWorkbook.Sheets("Sheet1").Cells(J, 2).Value = i
        J = J + 1: SUM = SUM + i
    Next i
    MsgBox ("Summation = " + Str(SUM))
End Sub
```

```
Sub AVERAGE1() ' Try Size = 10
    Dim J, K, Size, SUM, AVG As Double
    J = 2:  Count = 0: SUM = 0: AVG = 0:
    Size = InputBox("Enter numbers size?")
    For K = 1 To Size
        ThisWorkbook.Sheets("Sheet2").Cells(2, J).Value = K
        J = J + 1: SUM = SUM + K: Count = Count + 1
    Next K
    AVG = SUM / Count: MsgBox ("Average = " + Str(AVG))
End Sub
```

LECTURE FIVE - BIOLOGY DEPARTMENT
SECOND STAGE – EXCEL VBA
BY: SAIF BASHEER ALKHOJA

```
Sub AVERAGE2() '((Read)) Subjects number then subject degrees
    Dim i, J, X, Size, SUM, AVG As Double: J = 2: Count = 0: SUM = 0: AVG = 0
    Size = InputBox("Enter number of Subjects?")
    For i = 1 To Size
        X = InputBox("Enter subject #" + Str(i) + " degree?")
        ThisWorkbook.Sheets("Sheet2").Cells(4, J).Value = X
        J = J + 1: SUM = SUM + X: Count = Count + 1
    Next i
    AVG = SUM / Count: MsgBox ("Average = " + Str(AVG))
End Sub
```

```
Sub Students()
    Dim Deg As Double: Deg = InputBox("Enter the Degree number")
    If Deg > 100 Or Deg < 0 Then
        MsgBox ("You have to enter Degrees in rage (0-100)")
    Else:
        If Deg >= 89 And Deg <= 100 Then
            MsgBox (Str(Deg) + " = A (( Excellent ))")
        ElseIf Deg >= 80 And Deg <= 89 Then
            MsgBox (Str(Deg) + " = B (( Very Good ))")
        ElseIf Deg >= 70 And Deg <= 79 Then
            MsgBox (Str(Deg) + " = C (( Good ))")
        ElseIf Deg >= 60 And Deg <= 69 Then
            MsgBox (Str(Deg) + " = D (( Intermediate ))")
        ElseIf Deg >= 50 And Deg <= 59 Then
            MsgBox (Str(Deg) + " = E (( Fair ))")
        Else:
            MsgBox (Str(Deg) + " = F (( Fail ))")
        End If
    End If
End Sub
```

Lecture Six - Bio Department 2nd Stage - Excel VBA
By: Saif Basheer Alkhoja

```
Sub Formated_Output()

    Dim i, J, X, Y, R, C As Double
    For i = 1 To 20
        For J = 1 To 20
            ThisWorkbook.Sheets("Sheet2").Cells(i, J).Value = ""
        Next J
    Next i

    X = InputBox("Starts at row number: ")
    Y = InputBox("Starts at Column number: ")
    R = Val(InputBox("Enter the number of ROWS: "))
    C = Val(InputBox("Enter the number of COLUMNS: "))
    i = 1

    Do While i <= R
        J = 1
        Do While J <= C
            ThisWorkbook.Sheets("Sheet2").Cells(i - 1 + X, J - 1 + Y).Value = Str(i) + " , " + Str(J)
            J = J + 1
        Loop
        i = i + 1
    Loop

End Sub
```

```
Sub PRIME()
    Dim X, K As Long: Dim Flag As Boolean
    X = Val(InputBox("Enter your number: "))
    Flag = True

    For K = 2 To X - 1
        If X Mod K = 0 Then
            Flag = False
        End If
    Next K

    If Flag Then
        MsgBox ("PRIME NUMBER")
    Else:
        MsgBox ("Not Prime")
    End If
End Sub
```

```
Sub FACTORIAL() ' y = X!
    Dim K, X, y As Long
    y = 1: X = Val(InputBox("Enter your number: "))
    For K = X To 2 Step -1
        y = y * K
    Next K
    MsgBox (Str(X) + "! = " + Str(y))
End Sub
```

```
Sub Math1()
    ' Natural Logarithm and Exponential Functions
    Dim X, W As Double
    X = Math.Exp(1): y = Math.Log(X)
    MsgBox ("e = " + Str(X))
    MsgBox ("Ln(e) = " + Str(W))
End Sub
```

```
Sub Math2()
' Natural Logarithm and Exponential Functions
    Dim X, y, W As Double
    X = 10000: y = 10
    W = Math.Log(X) / Math.Log(y)
    MsgBox ("Logarith " + Str(X) + " for the base " + Str(y) + " = " + Str(W))
End Sub
```

```
Sub Trigonometric1()
'    ( Sin  Cos, Tan )
    Dim X, W As Double
    X = 45: Pi = 3.141592654: W = Math.Tan(X * Pi / 180)
    W = Round(W): MsgBox ("Tan(" + Str(X) + ") = " + Str(W))
End Sub
```

```
Sub Trigonometric2()
'    Tan Inverse
    Dim X, W As Double
    X = 1: Pi = 3.141592654
    W = Math.Atn(X) * 180 / Pi
    W = Round(W): MsgBox ("Tan Inverse (" + Str(X) + " ) = " + Str(W))
End Sub
```