

Solution Lab-session 8

1) a) i)

$$f(x) = \begin{cases} \sin(x) & \text{for } x < 0, x = 10, 15 \\ \exp(x) & \text{for } 0 \leq x \leq 6 \\ \cos(x) & \text{for } x > 6, x \neq 10, 15 \end{cases}$$

f(-11)=1.00, f(15)=0.65

ii)

$$g(x) = \begin{cases} 13x & \text{for } x < -11 \\ x^2 & \text{for } -11 \leq x < 10 \\ 13x & \text{for } x \geq 10 \end{cases}$$

g(-11)=121, g(15)=195

b) =IF(x<=2,(22-x^2)/5,x^3+2*x^2-1)

x	-3.1	2	5.9	11.2
f(x)	2.48	3.60	274.00	1654.81

2) a) Function MMAv(range) As Variant

Dim Mi, Ma, Av As Integer

Ma = WorksheetFunction.Max(range)

Mi = WorksheetFunction.Min(range)

Av = WorksheetFunction.Average(range)

If (Mi - Av) = 0 Then

MMAv = "Division by zero!"

Else

MMAv = (Ma + Av) / (Mi - Av) ^ 2

End If

End Function

b) Use your function to complete the following table:

x	y	z	MMAv
4	6	11	2
13	13	13	Division bz zero
-1	-4	5	0.3125 or 5/16

3) a) =HLOOKUP("India",A1:F5,2,FALSE) → New Delhi

=HLOOKUP("Berlin",A2:F5,2,FALSE) → 82.4 Mio

=HLOOKUP("Wales",A1:F5,2,TRUE) → Brasilia

=VLOOKUP("Capital",A1:F5,2,FALSE) → London

b) Function Country(Co As String, command As String) As Variant

Dim Inh, Ar As Single

If command = "Capital" Then

Country = WorksheetFunction.HLookup(Co, [A1:F5], 2, False)

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ElseIf command = "Inhabitants" Then
    Country = WorksheetFunction.HLookup(Co, [A1:F5], 3, False)
ElseIf command = "Area" Then
    Country = WorksheetFunction.HLookup(Co, [A1:F5], 4, False)
ElseIf command = "Birth Rate" Then
    Country = WorksheetFunction.HLookup(Co, [A1:F5], 5, False)
ElseIf command = "Inhabitants/Area" Then
    Inh = WorksheetFunction.HLookup(Co, [A1:F5], 3, False)
    Ar = WorksheetFunction.HLookup(Co, [A1:F5], 4, False)
    Country = Inh * 1000000 / Ar
Else
    Country = "Command not found!"
End If
End Function

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4) Function hello(x)

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Dim y As Integer
y = Hour(x)
Select Case y
    Case 0 To 11: hello = "Good Morning!"
    Case 12 To 17: hello = "Good Afternoon!"
    Case 18 To 21: hello = "Good Evening!"
    Case 22 To 24: hello = "Good Night!"
End Select
End Function

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