

Exam A Solutions 2010

Question 1

```
Function f(n As Integer) As Single
k = 0
For k = 1 To 2 * n + 1 Step 2
f = f + 2 * k + 3
Next k
End Function
```

10 points

```
Sub sum()
n = Range("A1").Value
k = 0
For k = 1 To 2 * n + 1 Step 2
ff = ff + 2 * k + 3
Next k
Range("A2").Value = ff
End Sub
```

10 points

```
Function lhs(n As Integer) As Single
lhs = (n + 1) * (5 + 2 * n)
End Function
```

5 points

Question 2

```
Sub basic()
n1 = InputBox("Enter a number different from zero:", "Input")
n2 = InputBox("Enter here another number different from zero:", "Input")
1:
op = InputBox("Enter here the name of the operation", "Operation")
If op = "addition" Then
x = n1 + n2
r = MsgBox("The sum is " & x, 0, "Result")
ElseIf op = "subtraction" Then
x = n1 - n2
r = MsgBox("The difference is " & x, 0, "Result")
ElseIf op = "multiplication" Then
x = n1 * n2
r = MsgBox("The product is " & x, 0, "Result")
ElseIf op = "division" Then
x = n1 / n2
r = MsgBox("The quotient is " & x, 0, "Result")
Else
r = MsgBox("This is not a valid operation!", 32, "Error")
GoTo 1
End If
End Sub
```

25 points distributed as follows: 3 points for the first 3 InputBoxes, 10 points for the If structure, 10 points for the right MsgBoxes (2 points each), 2 points for the GOTO structure.

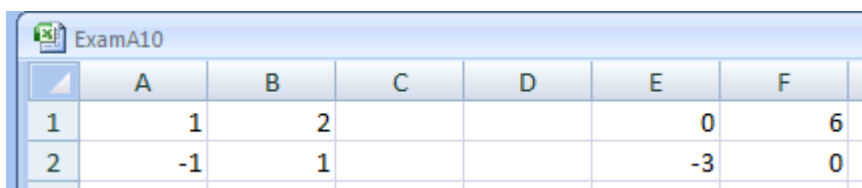
Question 3

```

Sub matrix()
Dim A As Variant
Dim B(1 To 2, 1 To 2)
A = Range("A1:B2").Value
i = 1
Do While i < 3
j = 1
Do While j < 3
B(i, j) = A(i, j) + A(i, 1) * A(1, j) + A(i, 2) * A(2, j)
j = j + 1
Loop
i = i + 1
Loop
Range("E1:F2").Value = B
End Sub

```

20 points distributed as follows: 5 points for variable definition, 5 points for correct input and output from/to spreadsheet and 10 points the correct loop structure.



	A	B	C	D	E	F
1	1	2			0	6
2	-1	1			-3	0

5 points for the correct matrix on cells E1:F2

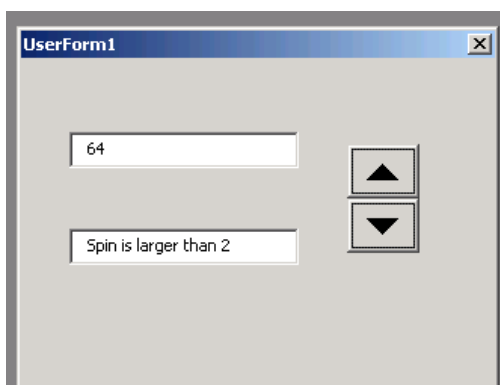
Question 4

```

Private Sub Spin_Change()
TBox1.Value = Spin.Value ^ 3
If TBox1.Value > 10 Then
TBox2.Value = "Spin is larger than 2"
Else
TBox2.Value = "Spin is smaller than 3"
End If
End Sub

```

20 points distributed as follows: 5 points for correct definition of TBox1 value, 10 for correct loop structure, 5 points for correct definition of TBox2 value.



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Spin is larger than 2

5 points