



Subject: Computer Programming
Division: all Divisions
Examiner: Committee

Year: 2nd
Time: 3 Hours
Date: 11 / 6 / 2014

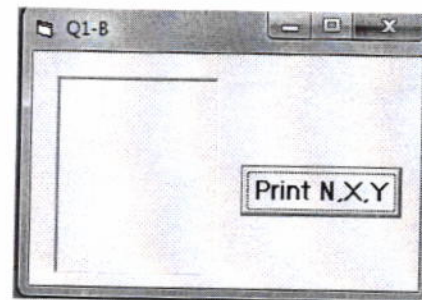
Answer FOUR Questions Only

Q1: A- Design a form with one command and four text boxes. Write a visual basic program to enter the values of (a, b and c) in to three text boxes. Calculate the value of (Y) from the following equation. Show a message box if divided by zero and show another message box if value of (c-2) is negative. Display the result (Y) in to text box. (13 Marks)

$$Y = \frac{3a^2 - b}{\sqrt{c - 2}}$$

B- What is the result that is generated by each step of the following Visual Basic Program Segments. (12 Marks)

```
Private Sub Command1_Click()
Dim N, X, Y As Integer
N = 50
Do
X = Int (N / 2)
Y = N Mod 2
If N <= 3 Then Exit Do
Picture1.Print N, X, Y
N = X
Loop Until X = 0
End Sub
```



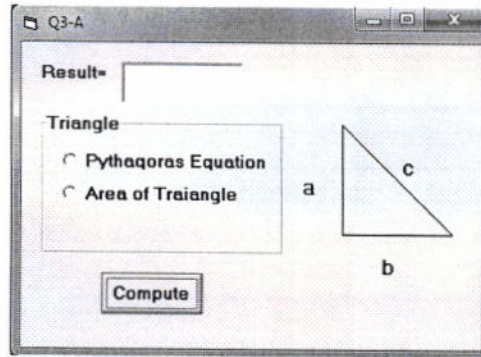
Q2: Design a form with one listbox, one command, and one picture box. Write a visual basic code to enter the value of (M) in to inputbox and add a sequence of real numbers (X_i), [where $i= 1, 2, \dots, M$] in to a list box. Calculate the mean and the standard deviation of the numbers and print them in to Picture Box. The mean and standard deviation are defined as:

$$\bar{X} = \frac{\sum_{i=1}^M X_i}{M}$$

The standard deviation is

$$\sigma = \sqrt{\frac{\sum_{i=1}^M (X_i - \bar{X})^2}{M}}$$

Q3: A- The following Project contains one command (Compute), one text box and two option buttons: option1 is (Pythagoras Equation) and option 2 is (Area of Triangle), Write a visual basic program such that when click on option1, the values of first and second sides of triangle (a & b) is entered by using inputbox statement and the third side (c) of triangle will be compute with Pythagoras equation. When click on option2 the values of height and base (a & b) is entered and the area of triangle will be compute. Display the results in to text box. (13 Marks)



B-Write a visual basic program for read the value (X) then compute the value of series (S) from the following equation. Design a suitable form using suitable input and output methods. (12 Marks)

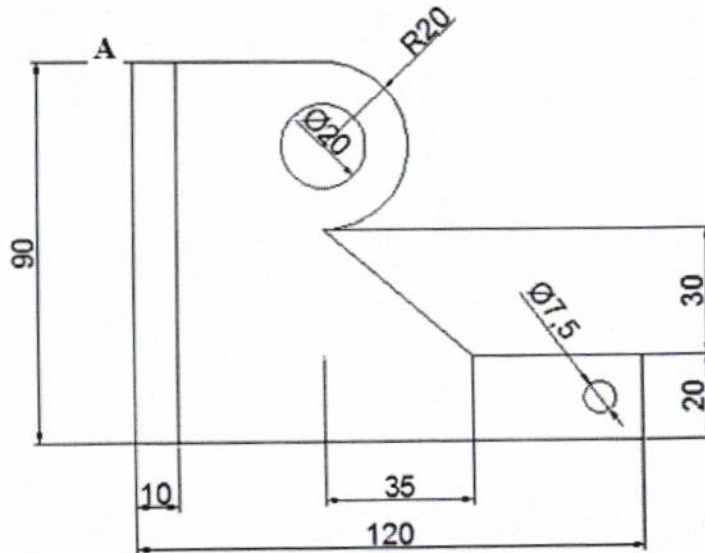
$$S = \frac{X}{X^2 + 1} - \frac{X}{X^2 + 2} + \frac{X}{X^2 + 3} - \dots \dots \dots \frac{X}{X^2 + 10}$$

Q4: Write a code program to read the values of a two dimension [D (N,8)] and one dimension array [U(8)]. Calculate the Summation (Sum) of a one dimension array (U). Compute a new array (Total) and array (Average) from the following equations. Display the array (Average) into a picture box.

$$[Total] = [D] * [U]$$

$$[Average] = \frac{1}{SUM} [Total]$$

Q5: A- Write a code program to draw the figure as shown below. Start from point A (10 , 10). Use scale (-10 , 0) - (110,160) (15 Marks)



B- The following statements represent of Visual Basic program that are used to generate the graph. Draw the figure and write all the necessary coordinates position into the graph. (10 Marks)

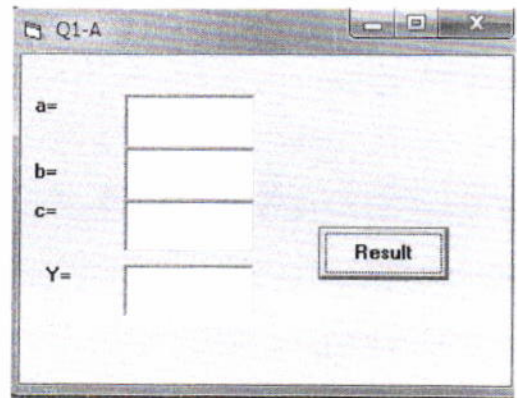
```
Private Sub Command1_Click()
```

```
Scale ( 0 , - 120 ) - ( 120 , 0 )
Line ( 10 , - 110 ) - ( 110 , - 90 ) , , B
Line ( 60 , - 90 ) - ( 110 , - 80 ) , , B
Line ( 60 , - 55 ) - ( 35 , - 90 )
Line ( 10 , - 90 ) - ( 65 , - 40 )
Circle ( 85 , - 55 ) , 25
Circle ( 85 , - 55 ) , 15
DrawWidth = 10
PSet (85 , - 55)
End Sub
```


الحلول النموذية لأسئلة البرمجة بلغة فيجوال بيسك – المرحلة الثانية ج كافة الفروع
العام الدراسي 2013-2014 – الدور الاول

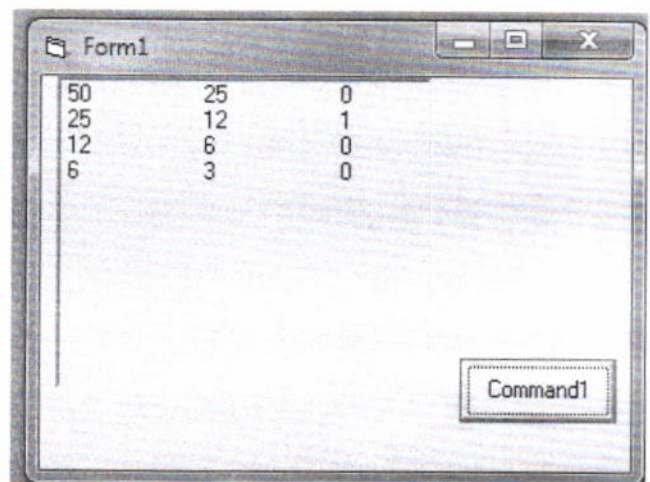
Q1: A-

```
Private sub command1_click()
    Dim a, b, c, y
    A=val (text1.text)
    b=val (text2.text)
    c=val (text3.text)
    if c - 2 = 0 then
        msgbox "divided by zero", vbok
    Exit Sub
    ElseIf c-2 < 0 then
        msgbox"Negative Value",vbok
    exit sub
    else
        Y= (3*a^2-b) / SQR ( c-2)
    Endif
    Text4.text=str(y)
End sub
```



Q1:B-

N	X=int(n/2)	Y=n mod 2	If N<=3	?N,X,Y	N=x
50	50/2=25	50 mod 2=0	no	50,25,0	25
25	25/2=12	25 mod 2=1	no	25,12,1	12
12	12/2=6	12 mod 2=0	no	12,6,0	6
6	6/2=3	6 mod2=0	no	6,3,0	3
3	3/2=1	3 mod2=1	yes	-----	-----



Q2:

```
Private Sub Form_Load()
```

```
Dim m, x, i
```

```
m = Val(InputBox(""))
```

```
For i = 1 To m
```

```
List1.AddItem InputBox("x=")
```

```
Next
```

```
End Sub
```

```
Private Sub Command1_Click()
```

```
Dim i, sum, mean, s, m
```

```
m = List1.ListCount 'or m=val(inputbox(""))
```

```
For i = 0 To m - 1
```

```
sum = sum + Val(List1.List ( I ))
```

```
Next i
```

```
mean = sum / m
```

```
sum = 0#
```

```
For i = 0 To m - 1
```

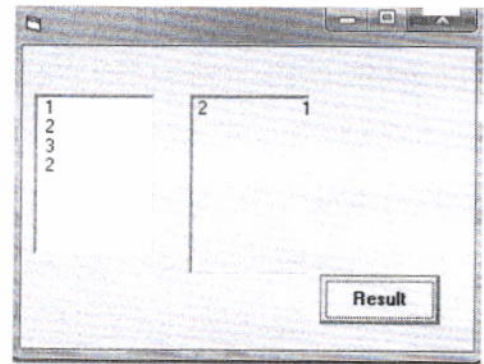
```
sum = sum + (Val (List1.List( i - 1 )) - mean ) ^ 2
```

```
Next i
```

```
s = Sqr(sum / m)
```

```
Picture1.Print mean, s
```

```
End Sub
```



Q3: A-

```
Private sub command1_click()
```

```
Dim a,b,c,area
```

```
If option1.value =true then
```

```
A=val(inputbox("a="))
```

```
B=val(inputbox("b="))
```

```
C=sqr (A^2+B^2)
```

```
Text1.text=str( C )
```

```
ElseIf option2.value=true then 'or else
```

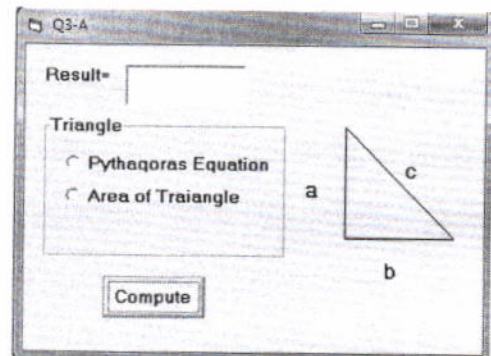
```
A=val(inputbox("a="))
```

```
B=val(inputbox("b="))
```

```
Area=0.5*a*b
```

```
Text1.text=str( area )
```

```
EndIf : End sub
```



Q3:B-

```
Private Sub Command1_click()
Dim X,S,I, k
X=val (text1.text)      'or x= val(inputbox(""))
K=1
For i=1 to 10
S = S + X / (X^2 + I)*K
K=-K
Next I
Text2.text =str(S)
End Sub
```

Q4:

```
Private Sub Command1_click()
Dim N, I, j, sum
N=val(inputbox ("N="))
ReDim D(N,8), U(8), Total(N), Average (N)
For I=1 to N
For J=1 to 8
D(I,j)=Val(inputbox(""))
Next j, i
For i=1 to 8
U(i) =val(inputbox(""))
Sum=Sum+u(I)
Next I
For I=1 to N
For J=1 To 8
Total(I)=Total(I)+ D(I, J)* U(j)
Next J, I
For i=1 to N
Average(I)= 1/Sum * Total(I)
Next i
For i=1 to N
Picture1.print Average (i)
Next I
End Sub
```

Q5: A-

Private Sub Command1_Click()

Scale (-10, 0)-(160, 110)

Line (10, 10)-(20, 100), , B

Line (20, 100)-(130, 100)

Line (130, 100)-(130, 80)

Line (130, 80)-(90, 80)

Line (90, 80)-(55, 50)

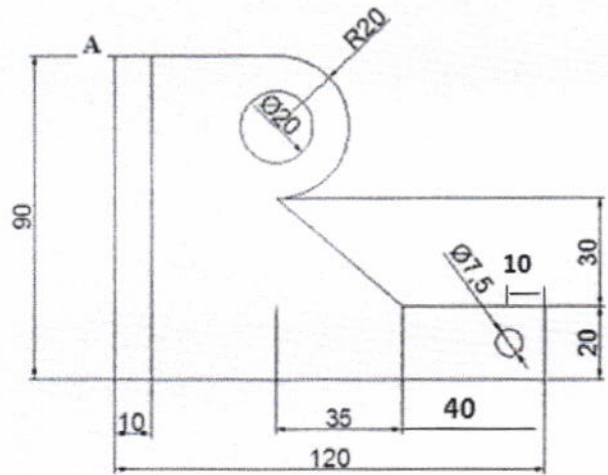
Circle (55, 30), 20, , 3 / 2 * 3.14, 3.14 / 2

Circle (55, 30), 10

Circle (120, 90), 3.75

Line (55, 10)-(20, 10)

End Sub



Q5: B-

