



University Of Technology
Building and Construction Eng. Dept.
Final Exam – First Attempt – 2010/2011
Subject : Computer Programming Class:2nd year



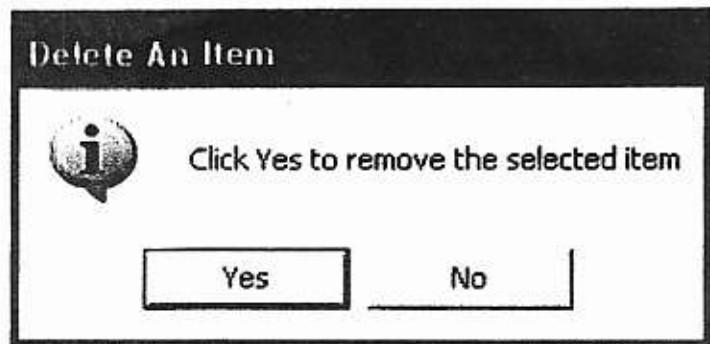
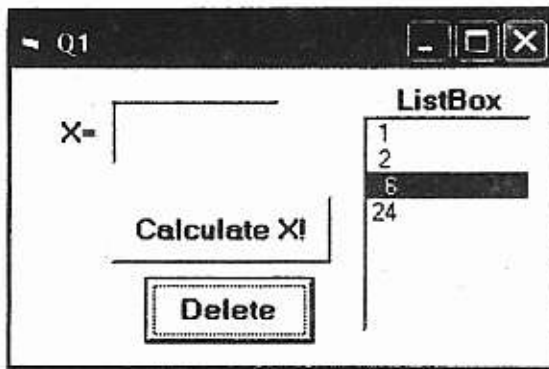
Branch :all Branches
Examiner :

Time : 3 Hours
Date :2 / 6 /2011

Answer only four questions

Q1: Design a form with one ListBox, one TextBox, and Two Command Buttons, then write a code program to perform the following tasks:

- 1- When the user click on command1 (Calculate X!), enter the value of(X) into Text Box, Then Calculate the value of(X!) and added the result in ListBox.
- 2- When the user click on command2 (Delete) a MessageBox appear informing the user to click on the yes button to delete the selected item from the ListBox.



Q2: Write a code program to read a two dimensional array H (3, 3) on a column by column. Create a new two dimensional array K (3, 3) from the following formula.

$$[K] = \begin{bmatrix} h_{11} & 0 & 0 \\ 0 & h_{22} & 0 \\ 0 & 0 & h_{33} \end{bmatrix}$$

Calculate the elements of the numeric array L, where a numeric array L is determined from the following formula:

$$[L] = [H] * [K] .$$

Display a numeric array L into a separate PictureBox.

Q3: A- Describe the final Value of (X) that is generated by each step of the following Visual Basic Program segments. (10 Marks)

```

X=0
For K=1 To 20 Step 4
Print "K & X=" ; K , X
If K mod 3 =0 Then
X=K+X
Print "Value of X="; X
Exit For
Else
X=K - X
EndIf
Next
    
```

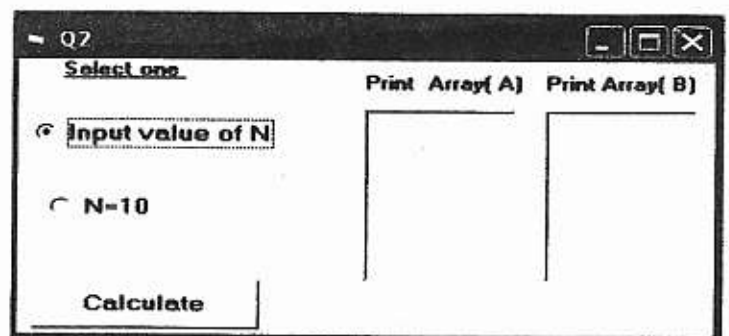
B- Design a form with two Textboxes and one Command Button to find the value of the following series. Write the code program so that the value of (X) is entered into TextBox and the number of terms (N=15). Calculate the value of series and display the result of series (S) in another separate TextBox. Use (Do While -Loop) statement.

(15 Marks)

$$S^2 = \frac{x}{(x+1)} + \frac{x^3}{(x+1)^4} + \frac{x^5}{(x+1)^9} + \frac{x^7}{(x+1)^{16}} + \dots$$

Q4: Design a form with two Option Buttons to determine the integer value of (N), two PictureBoxes, and one Command Button. Write a code program to enter the elements of a one dimension array A (N). Calculate the value of (Y) from the following equations and stored in a new one dimension array (B). Display the arrays A & B into two PictureBoxes.

$$Y = \begin{cases} \left(\frac{A(i)}{A(i)+5}\right)^2 & \text{If } i \leq \frac{N}{2} \\ \left(1 + \frac{2}{A(i)}\right) & \text{If } i > \frac{N}{2} \end{cases}$$



Q5: A- 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. (15 Marks)

```

Private Sub Command1_Click()
Scale ( 0 , 0 ) - ( 250 , 250 )
Line ( 10 , 160 ) - ( 10 , 150 )
Line ( 10 , 150 ) - ( 35 , 150 )
Line ( 10 , 110 ) - ( 10 , 120 )
Line ( 10 , 120 ) - ( 35 , 120 )
Circle ( 35 , 135 ) , 15 , , 3.14 * 3 / 2 , 3.14 / 2
Circle ( 120 , 135 ) , 40
Circle ( 120 , 135 ) , 16
Line ( 120 , 132 ) - ( 136 , 135 ) , , BF
Circle ( 190 , 65 ) , 25
Circle ( 190 , 65 ) , 10
Line ( 10 , 110 ) - ( 116 , 93 )
Line ( 10 , 160 ) - ( 116 , 177 )
Line ( 116 , 93 ) - ( 177 , 42 )
Line ( 154 , 159 ) - ( 213 , 78 )
End Sub

```

B- Write a code program to draw the figure as shown below. Start from point A.

(10 Marks)

