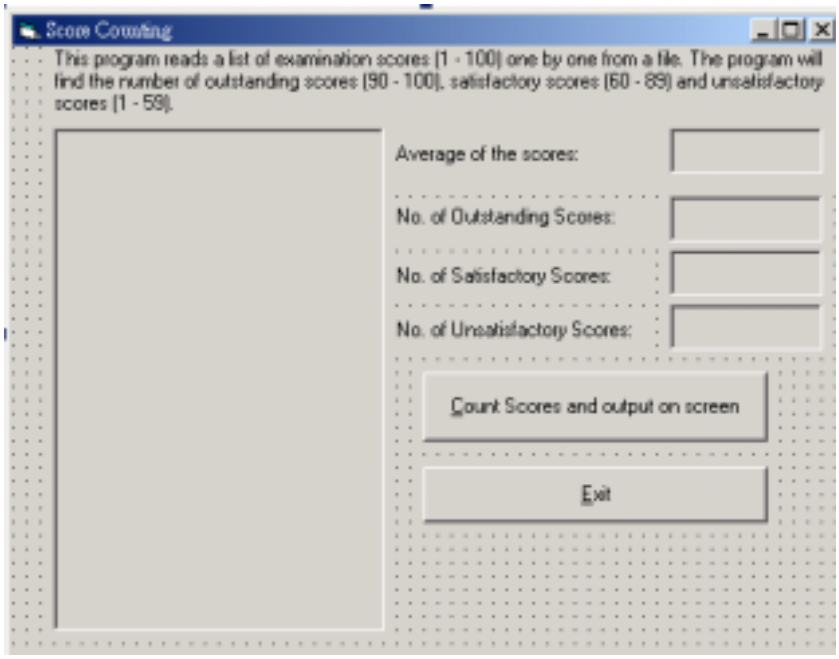
7.2 Try to walkthrough the following program and write down the expected results. This program is a modified version of Worksheet 5 problem 5.5. It reads from an input file a collection of examination scores ranging in value from 1 to 100. It counts and print the number of outstanding scores (90 - 100), the number of satisfactory scores (60 – 89) and the number of unsatisfactory scores (1 – 59). It should also display the average and the number of scores in each category. The program ignores scores greater than 100 and terminates when the input file is ended. Key-in the program and compare the results after execution.

Step 1: *Create a form with two command buttons, five labels, four text boxes and one picture box according to the properties table below*

Properties Table

Object	**Property**	**Setting**
Form	Name Caption	frmScores Score Counting
Command Button	Name Caption	cmdCount &Count Scores and output on screen
Command Button	Name Caption	cmdExit &Exit
Label	Name Caption	lblAverage Average of the scores
Label	Name Caption	lblOutstanding No. of Outstanding Scores
Label	Name Caption	lblSatisfactory No. of Satisfactory Scores
Label	Name Caption	lblUnsatisfactory No. of Unsatisfactory Scores
Label	Name Caption	lblMessage This program reads a list of examination scores (1 - 100) one by one from a file. The program will find the number of outstanding scores (90 - 100), satisfactory scores (60 - 89) and unsatisfactory scores (1 - 59).
Text Box	Name Caption	txtAverage (empty)
Text Box	Name Caption	txtOutstanding (empty)
Text Box	Name Caption	txtSatisfactory (empty)
Text Box	Name Caption	txtUnsatisfactory (empty)
Picture Box	Name Caption	picOutput (empty)

Layout



Step 2 : *Add codes for the events*
cmdCount_Click()
cmdExit

Codes for **cmdCount**

```
Private Sub cmdCount_Click()
    Dim Score As Double, Sum As Double, Average As Double
    Dim NumOfData As Integer
    Dim OutCounter, SatCounter, UnsatCounter As Integer
    frm1 = "@@@@"
    frm2 = "@@@@@@@@"

    Open App.Path & "\InFile7-2.dat" For Input As #1
    OutCounter = 0
    SatCounter = 0
    UnsatCouner = 0
    Sum = 0
    picOutput.Cls
    picOutput.Print "Start reading file"
    picOutput.Print
    picOutput.Print "Input Scores are :"
    picOutput.Print

    txtOutstanding.Text = ""
    txtSatisfactory.Text = ""
    txtUnsatisfactory.Text = ""
```

```
    Do While Not EOF(1)
        Input #1, Score
        If (Score > 100) Or (Score < 0) Then
            picOutput.Print Score; "    Invalid score!"
        Else
            Sum = Sum + Score
            Select Case Score
                Case 90 To 100
                    picOutput.Print Score; "    Outstanding !"
                    OutCounter = OutCounter + 1
                Case 60 To 89
                    picOutput.Print Score; "    Satisfactory !"
                    SatCounter = SatCounter + 1
                Case 1 To 59
                    picOutput.Print Score; "    Unsatisfactory !"
                    UnsatCounter = UnsatCounter + 1
            End Select
        End If
    Loop

    NumOfData = OutCounter + SatCounter + UnsatCounter
    If (NumOfData <> 0) Then
        Average = Sum / NumOfData

        txtAverage.Text = Format(FormatNumber(Average, 2), frm2)
        txtOutstanding.Text = Format(OutCounter, frm1)
        txtSatisfactory.Text = Format(SatCounter, frm1)
        txtUnsatisfactory.Text = Format(UnsatCounter, frm1)
    End If

    picOutput.Print
    picOutput.Print "End of program"
    Close
End Sub
```

Codes for **cmdExit**

```
Private Sub cmdExit_Click()
    End
End Sub
```

Step 3 : *Execution*

Click the **Count Scores and output on screen** command button.
Terminate the program by clicking the **Exit** button

Data file "Infile7-2.dat":

```
20   40   90   84   30   49   -1   98   100   45   78   23
40   34   45   102
```

Task : ***Modify the program so that the output can be printed to a file "OutFile7-2.dat".***