```vb
Public Class Form1
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance of the
OleDb.OleDbConnection class with the specified string
    'that says its Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class
    Public variablename As String 'defines variablename as public string, allowing me
to use it in other forms
    Public Teachercode As String 'defines Teachercode as public string, allowing me to
use in other forms

    Private Sub SignInButton_Click(sender As Object, e As EventArgs) Handles
SignInButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.Background)
        Dim SQLstring As String = "select * from Users where Username = '" &
UsernameTextBox.Text & "'" 'Defines variable sqlstring As data type String, which
contains the command To read from data table Users where Username is
        'equal to the text entered into UsernameTextBox
        'pay attention to speech mark & apostrophe when coding
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
        connection.Close() 'Lines 22-26 puts the data from database into the data
table & closes connection with the database
        If dt.Rows.Count = 0 Then 'If the Username entered into UsernameTextBox is not
found in the Username column,
            Dim newdt As New DataTable
            Dim SQLstring2 As String = "select * from Teachers where Username = '" &
UsernameTextBox.Text & "'" 'Defines variable sqlstring As data type String, which
contains the command To read
            'from data table Teachers where Username is equal to what has been input
in UsernameTextBox
            connection.Open()
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring2, connection)
            newdt.Clear()
            DataAdapter.Fill(newdt)
            connection.Close()
            If newdt.Rows.Count = 0 Then
                MsgBox("invalid login") 'a messagebox will be displayed and say the
login is invalid
                PasswordTextBox.Text = "" 'clears PasswordTextBox
                UsernameTextBox.Text = "" 'clears UsernameTextBox
                Exit Sub ' and then exit the subroutine as it should do nothing
further
            End If
            If newdt.Rows(0)(2) = PasswordTextBox.Text Then 'This If statement will
only be run if the username was found in the database, & it checks if the associated
password matches the
                'password entered into PasswordTextBox
```

```vbnet
                variablename = UsernameTextBox.Text 'variablename is equal to the
username that was used when login was accepted

                PasswordTextBox.Text = "" 'clears PasswordTextBox
                UsernameTextBox.Text = "" 'clears UsernameTextBox

                'variable teachercode is set to teacherID
                Teachercode = newdt.Rows(0)(0)

                Me.Hide()

                TeacherForm.Show()

                Exit Sub
            Else
                MsgBox("invalid login") 'if it doesnt match, a messagebox will be
displayed saying invalid login
                PasswordTextBox.Text = "" 'clears PasswordTextBox
                UsernameTextBox.Text = "" 'clears UsernameTextBox
                Exit Sub
            End If
        End If
        If dt.Rows(0)(2) = PasswordTextBox.Text Then 'This If statement will only be
run if the username was found in the database, & checks if the associated password
matches the password entered into PasswordTextBox

            Me.Hide() 'if so, will then hide the login form as it can now proceed to
the next form

            variablename = UsernameTextBox.Text 'variablename is equal to the username
that was used when login was accepted

            'if teachercode isnt empty for the student, teachercode variable will be
equal to their assigned teachercode
            If Not IsDBNull(dt.Rows(0)(4)) Then
                Teachercode = dt.Rows(0)(4)
            End If
            PasswordTextBox.Text = "" 'clears PasswordTextBox
            UsernameTextBox.Text = "" 'clears UsernameTextBox
            StudentForm.Show() 'shows studentform
        Else
            MsgBox("invalid login") 'if it doesnt match, a messagebox will be
displayed saying invalid login
            PasswordTextBox.Text = "" 'clears PasswordTextBox
            UsernameTextBox.Text = "" 'clears UsernameTextBox
            Exit Sub
        End If

        'If dt.Rows(0)(3) = True Then 'if there is an account that exists &  the
password matches & attribute 'Teacher?' is True then it will show the teacher form
        'TeacherForm.Show()
        'Else
        'StudentForm.Show() 'if 'Teacher?' isnt True then it will show the student
form as it will know the user isnt a teacher
        'End If

    End Sub

    Private Sub SignUpButton2_Click(sender As Object, e As EventArgs) Handles
SignUpButton.Click
        'plays audio
```

```vbnet
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'closes current form & opens sign up form
        Me.Hide()
        SignUpForm.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        End 'ends program execution
    End Sub

End Class
```

```vbnet
Public Class ChangeStudentPasswordForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class
    Private Sub ChangePassButton_Click(sender As Object, e As EventArgs) Handles
ChangePassButton.Click
        If Not NewPassTB.Text = ConfirmNewPassTB.Text Then 'This if statement makes
sure that the New Pass TB and confirm & ConfirmNewPassTB text boxes
            'are the same
            'mssgbox to notify user
            MsgBox("New passwords do not match")
            'exit subroutine
            'clears textboxes
            OldPassTB.Text = ""
            NewPassTB.Text = ""
            ConfirmNewPassTB.Text = ""
            Exit Sub
        End If
        If OldPassTB.Text = "" Or NewPassTB.Text = "" Or ConfirmNewPassTB.Text = ""
Then 'if there is no text entered in the textboxes, then
            MsgBox("values have not been entered in all fields") 'a messagebox will be
displayed, telling the user they havent entered something in all of the boxes that
they need to
            'clears all textboxes
            OldPassTB.Text = ""
            NewPassTB.Text = ""
            ConfirmNewPassTB.Text = ""
            Exit Sub 'will exit the subroutine to allow the user to now enter
something
        End If
        If NewPassTB.Text.Length < 5 Then 'If the number of characters in the text in
newpasstb is less than 5
            MsgBox("The new password length must be more than 5 characters") 'msgbox
displayed
            'clears all textboxes
            OldPassTB.Text = ""
            NewPassTB.Text = ""
            ConfirmNewPassTB.Text = ""
            Exit Sub ' exits sub to not allow account to be created
```

```vbnet
            End If
            If Not NewPassTB.Text <> LCase$(NewPassTB.Text) Then
                'if the text in NewPassTB is not different a complete lowercase conversion
of the text
                MsgBox("new password must contain caps") 'msgbox displayed
                'clears all textboxes
                OldPassTB.Text = ""
                NewPassTB.Text = ""
                ConfirmNewPassTB.Text = ""
                Exit Sub 'exit subroutine to not allow record to be created
            End If
            Dim sqlString3 As String = "select * from Users where Username = '" &
Form1.variablename & "'" 'defines sql statemnt to read the datatable where username is
the username that is signed in
            connection.Open()
            DataAdapter = New OleDb.OleDbDataAdapter(sqlString3, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()
            If OldPassTB.Text = dt.Rows(0)(2) Then 'If old password is set to the current
password, then
                Dim sqlString4 As String = "select * from Users where Username = '" &
Form1.variablename & "'" 'defines sql statemnt to read where username is equal to the
username signed in
                sqlString4 = "UPDATE Users set [Password] = '" & NewPassTB.Text 'updates
password in users table to new password
                sqlString4 &= "' WHERE [Username] = '" & Form1.variablename & "'" 'where
username is equal to that of the user who is signed in
                'establishes connection with database
                connection.Open()
                DataAdapter = New OleDb.OleDbDataAdapter(sqlString4, connection)
                dt.Clear()
                DataAdapter.Fill(dt)
                connection.Close()
                'message box to notify user
                MsgBox("Password changed")
                'clears textboxes
                OldPassTB.Text = ""
                NewPassTB.Text = ""
                ConfirmNewPassTB.Text = ""
                'shows studentform again & closes current form
                StudentForm.Show()
                Close()
                Exit Sub
            Else
                'messagebox to notify user
                MsgBox("Old password incorrect")
                OldPassTB.Text = ""
                NewPassTB.Text = ""
                ConfirmNewPassTB.Text = ""
                Exit Sub
            End If
        End Sub
    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'closes current form & shows student form
        Close()
        StudentForm.Show()
    End Sub


End Class
```

LEADERBOARDSFORM

```vb
Imports System.Data.OleDb
Public Class LeaderboardsForm
    'defines variables
    Dim connection As OleDbConnection = New
OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data Source=RoughCode1DB.accdb")
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Users", 500, HorizontalAlignment.Left)
        ListView1.Columns.Add("HighScore", 500, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub LeaderboardsForm_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        Dim data_reader1 As OleDbDataReader
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Users where TeacherID = '" &
Form1.Teachercode & "'", connection)
        data_reader1 = command.ExecuteReader

        'adds data to listview
        If data_reader1.HasRows Then
            While data_reader1.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader1.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader1.GetValue(5)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'closes form & shows previous form again
        Close()
        QuizForm2.Show()
    End Sub

    Private Sub MsgButton_Click(sender As Object, e As EventArgs) Handles
MsgButton.Click
        'msgbox to let the user know why the leaderboards may be empty
        MsgBox("If there is nothing displayed in the leaderboards, it is likely
because you are not associated with a class. Assign a teacher by entering their
teacher code in the main menu
& this will enable you to view the highscores of your classmates.")
    End Sub

End Class
```

```vbnet
Imports System.Text 'statement enables types that are contained in a given namespace
to be referenced directly
Public Class PromoteTeacherForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class

    Dim validchars As String =
"abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890" 'valid characters for
the teachercode to be used later

    Private Sub PromoteTeacherButton_Click(sender As Object, e As EventArgs) Handles
PromoteTeacherButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        If PromoteTeacherTextBox.Text = "" Then 'This if statement makes sure that
there is text entered into the textboxes before
            'they press the button
            MsgBox("enter something into the textbox")
            Exit Sub
        End If
        Dim SQLstring1 As String = "select * from Users where Username = '" &
PromoteTeacherTextBox.Text & "'" ' selects all data from users where username
        ' is equal to what was input into PromoteTeacherTextbox
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
        connection.Close()
        If dt.Rows.Count = 0 Then 'if the username doesnt exist in users table
            Dim SQLstring2 As String = "select * from Teachers where Username = '" &
PromoteTeacherTextBox.Text & "'" 'selects all data from teachers table where username
            'is equal to what was input into PromoteTeacherTextbox
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring2, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()
            If dt.Rows.Count = 0 Then 'if username doesnt exist in teachers data table
                MsgBox("no users with that username found")
                PromoteTeacherTextBox.Text = "" 'clears textbox
                Exit Sub
            Else
                MsgBox("user is already a teacher") 'if username was found in teachers
table msgbox displayed
                PromoteTeacherTextBox.Text = "" 'clears textbox
                Exit Sub
            End If
        Else 'if username does exist in users table
            Dim newteachercode As String 'defines variable newteachercode as string
            Dim newteacherusername As String = PromoteTeacherTextBox.Text 'defines
variable newteacherusername as string equal to the text entered into the textbox
```

```vb
            Dim newteacherpassword As String = dt.Rows(0)(2) 'defines variable
newteacherpassword as string equal to the password of whichever user was entered into
            'the textbox
            Dim sb As New StringBuilder() 'defines sb as a new instance of
StringBuilder class
            Dim rand As New Random() 'defines rand as new instance of Random class

            For i As Integer = 1 To 5 'so that it does adds a new random character 5
times
                Dim idx As Integer = rand.Next(0, validchars.Length) 'returns a random
integer value between 0 and the final position number of ValidChars
                'that will be the position of the random character chosen from
ValidChars
                Dim randomChar As Char = validchars(idx) 'Defines randomChar as
datatype Char equal to the the letter in validchars that has the position randomly
chosen by
                'the previous lines
                sb.Append(randomChar) 'adds the random character to sb
            Next i 'continues the for loop until 5

            newteachercode = sb.ToString 'converts sb to datatype string and makes
variable newteachercode equal to it

            Dim SQLstring3 As String = "select * from Teachers where TeacherID = '" &
newteachercode & "'" 'defines sqlsring3 as string containing sql statement that
selects all
            'columns where TeacherID is equal to the new teacher code in Teachers
table

            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring3, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()

            While dt.Rows.Count > 0 'while the newteachercode generated is one that
has already been used
                For i As Integer = 1 To 5 'runs the for loop again, making a different
new teacher code
                    Dim idx As Integer = rand.Next(0, validchars.Length)
                    Dim randomChar As Char = validchars(idx)
                    sb.Append(randomChar)
                Next i
                newteachercode = sb.ToString
                connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
                DataAdapter = New OleDb.OleDbDataAdapter(SQLstring3, connection)
                dt.Clear()
                DataAdapter.Fill(dt)
                connection.Close()
            End While 'will end once the teachercode is one that hasnt been used

            Dim sqlstring4 As String = "Delete * from Users where Username = '" &
PromoteTeacherTextBox.Text & "'" 'defines sqlstring 4 as a string containing sql
command to
            'delete all records from users where the username is equal to what has
been entered into the promoteteachertextbox
            connection.Open()
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring4, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
```

```vbnet
            connection.Close()

            Dim sqlstring5 As String = "Insert into Teachers ([Username], [Password],
[TeacherID])" ' sql statement that will create a new row in teachers table
            'with the username and password from the user who has been promoted as
well as the randomly generated teachercode
            sqlstring5 &= " values ('"
            sqlstring5 &= newteacherusername & "', '"
            sqlstring5 &= newteacherpassword & "', '"
            sqlstring5 &= newteachercode & "')"
            connection.Open()
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring5, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()

            MsgBox("user promoted to teacher") 'msgbox to let the individual know the
task has been completed
            PromoteTeacherTextBox.Text = "" 'clears textbox


            Exit Sub
        End If
        Exit Sub
    End Sub
    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes form & opens previous form
        Close()
        TeacherForm.Show()
    End Sub


End Class
```

```vbnet
Public Class Quiz_TopicQuizSelectionForm
    Private Sub QuizButton_Click(sender As Object, e As EventArgs) Handles
QuizButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Close() 'closes current form
        QuizForm.Show() 'shows quiz form
    End Sub
    Private Sub PictureBox1_Click(sender As Object, e As EventArgs) Handles
TopicQuizButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Close() 'closes current form
        TopicQuizSelectionForm.Show() 'shows quiz form
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'closes current form & shows previous form again
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.Background) 'plays audio
        Close()
```

```vbnet
        StudentForm.Show()
    End Sub

End Class
```

QUIZFORM

```vbnet
Public Class QuizForm

    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class

    Dim score As Integer = 0 'defines variable score as integer with its initial value
set to 0
    Dim lives As Integer = 3 'defines variable lives as integer with its initial value
set to 3
    Dim questionscompleted As Integer = 0 'defines questionscompleted as integer with
its initial value  set to 0
    Dim second As Integer 'defines second as integer to define each tick of 1000
miliseconds as a second
    Dim i As Integer = 0

    'the following integer variables will be used to randomly decide the column
associated with each button
    Dim w As Integer
    Dim x As Integer
    Dim y As Integer
    Dim z As Integer

    ' for the row
    Dim v As Integer

    'used to calculate final score after quiz is over
    Dim finalscore As Integer
    'used for displaying score on QuizForm2
    Public finalscore1 As Integer
    'used to compare to final score
    Dim highscore As Integer
    'used for displaying highscore on QuizForm2
    Public highscore1 As Integer

    Dim sqlstring3 As String

    'array containing the row numbers that have been used
    Dim usedquestions(10) As Integer

    'integer variable used to keep track of how many seconds is spent on quiz
    Dim timetracker As Integer = 0
```

```vb
    'integer variable to store the current total number of seconds from database
    Dim totalsecs As Integer

    'integer variable to keep track of total amount of quizzes completed

    Dim qc As Integer

Public Sub question()
        My.Computer.Audio.Play(My.Resources.KAHOOT_Music__10_Second_Countdown__33,
AudioPlayMode.Background)
        ' Initialize the random-number generator & following lines try to make it so
that w, x, y, z are all unique values between 2 and 5 inclusive
        Dim usednumbers(4) As Integer 'array defined as usednumbers and limit of 5
values
        Dim count = 0  'dims count as integer set to 0
        Randomize() ' initializes random number generator
        Dim rand As Integer = Int(Math.Floor((5 - 2) + 1) * Rnd() + 2) 'defines rand
as integer and sets it to a randomly generated number between 2 & 5
        While count < 4 ' while count is less than 4 so will repeat until there are 4
values in the array
            If usednumbers.Contains(rand) Then 'if array usednumbers contains the
randomly generated number
                rand = Int(Math.Floor((5 - 2) + 1) * Rnd() + 2) 'gets a new randomly
generated number value for rand
            Else
                usednumbers(count) = rand 'sets the current count as element where
rand is its value
                count += 1 'count increments by 1
            End If
        End While
        w = usednumbers(0) 'w set to usednumbers array element 0
        x = usednumbers(1) 'x set to usednumbers array element 1
        y = usednumbers(2) 'y set to usednumbers array element 2
        z = usednumbers(3) 'z set to usednumbers array element 3
        v = Int(Math.Floor((106 - 1) + 1) * Rnd() + 1) 'defines v as integer and sets
it to a randomly generated number between 1 & 106

        If questionscompleted > 0 Then
            If usedquestions.Contains(v) Then 'if array usedquestions contains the
randomly generated number
                While usedquestions.Contains(v)
                    Randomize() ' initializes random number generator
                    v = Int(Math.Floor((106 - 1) + 1) * Rnd() + 1) 'defines v as
integer and sets it to a randomly generated number between 1 & 106
                End While
                usedquestions(questionscompleted) = v 'sets the current
questionscompleted as element where v is its value
            Else
                usedquestions(questionscompleted) = v 'sets the current
questionscompleted as element where v is its value
            End If
        Else
            usedquestions(0) = v
        End If

        Dim SQLstring1 As String = "SELECT * FROM Questions"
        'Defines variable sqlstring1 As data type String, which contains the Command
To read all from the data table Questions
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
```

```vbnet
        connection.Close()


        QuestionLabel.Text = dt.Rows(v)(1) 'sets question label to  the randomly
selected question
        'Set the text of the following buttons to a record from random row with the
column a random value between 2 and 5 inclusive
        Button1.Text = dt.Rows(v)(w)
        Button2.Text = dt.Rows(v)(x)
        Button3.Text = dt.Rows(v)(y)
        Button4.Text = dt.Rows(v)(z)



    End Sub

  Public Sub CheckqcAndLives()
        If questionscompleted >= 10 Or lives <= 0 Then 'if 10 questions have been
completed or lives = 0

            SQLstring3 = "select * from Users where Username = '" & Form1.variablename
& "'"
            'Defines variable sqlstring1 As data type String, which contains the
Command To read all from the data table Users where username is equal to the username
they signed in with
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring3, connection)
            Dim df As New DataTable
            df.Clear()
            DataAdapter.Fill(df)
            connection.Close()
            highscore = CInt(df.Rows(0)(5))
            finalscore = score * (lives + 1) 'final score = score multiplied by lives
remaining plus 1, so if no loves remaining, they do not recieve a multiplier
            finalscore1 = finalscore
            highscore1 = highscore
            If finalscore > highscore Then
                Dim SQLstring2 As String = "UPDATE Users set [HighScore] = '" &
finalscore
                SQLstring2 &= "' WHERE [Username] = '" & Form1.variablename & "'"
                ''Defines variable sqlstring2 As data type String, which contains the
Command To Update the Column HighScore where Username is equal to that of the User
currently signed in
                connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
                DataAdapter = New OleDb.OleDbDataAdapter(SQLstring2, connection)
                dt.Clear()
                DataAdapter.Fill(dt)
                connection.Close()
            End If
            My.Computer.Audio.Stop() 'stops audio
            Timer2.Stop() ' stops 2nd timer

            sqlstring3 = "select * from Users where Username = '" & Form1.variablename
& "'"
            'Defines variable sqlstring1 As data type String, which contains the
Command To read all from the data table Users where username is equal to the username
they signed in with
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring3, connection)
            df.Clear()
```

```vb
            DataAdapter.Fill(df)
            connection.Close()
            totalsecs = df.Rows(0)(12) 'equal to value of total seconds already in
database
            totalsecs += timetracker 'adds current session time to previous value

            Dim SQLstring5 As String = "UPDATE Users set [Seconds] = '" & totalsecs
'updates database to new value of seconds
            SQLstring5 &= "' WHERE [Username] = '" & Form1.variablename & "'"
            ''Defines variable sqlstring5 As data type String, which contains the
Command To Update the Column Seconds where Username is equal to that of the User
currently signed in
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring5, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()

            sqlstring3 = "select * from Users where Username = '" & Form1.variablename
& "'"
            'Defines variable sqlstring3 As data type String, which contains the
Command To read all from the data table Users where username is equal to the username
they signed in with
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring3, connection)
            df.Clear()
            DataAdapter.Fill(df)
            connection.Close()
            qc = df.Rows(0)(13) 'equal to value of total quizzes completed already in
database
            qc += 1 'adds 1 to the number of questions completed


            Dim SQLstring6 As String = "UPDATE Users set [QuizzesCompleted] = '" & qc
'updates database to new value of Quizzes completed
            SQLstring6 &= "' WHERE [Username] = '" & Form1.variablename & "'"
            ''Defines variable sqlstring6 As data type String, which contains the
Command To Update the Column QuizzesCompleted where Username is equal to that of the
User currently signed in
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring6, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()

            Me.Hide() 'closes current form
            QuizForm2.Show() 'shows QuizForm2
        End If

    End Sub

Public Sub updatelabel()
        ScoreLabel.Text = "Score = " & score 'label displays the current score
        LivesLabel.Text = "Lives = " & lives 'label displays the current amount of
lives remaining
        QuestionsCompletedLabel.Text = "QC = " & questionscompleted 'displays
questions completed
    End Sub
    Private Sub QuizForm_Load(sender As Object, e As EventArgs) Handles MyBase.Load
```

```vb
        Timer1.Interval = 1000 'sets the interval to 1 second
        Timer1.Start() 'Timer starts functioning

        Timer2.Interval = 1000 'sets the interval to 1 second
        Timer2.Start() 'Timer starts functioning

        updatelabel() 'updates labels
        question() 'presents first question
    End Sub

    Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles Timer1.Tick
        second = second + 1 'every time it ticks, variable second increases by 1
        SecondsLabel.Text = second
        If second >= 10 Then 'if second reaches 10
            Timer1.Stop() 'Timer stops functioning
            second = 0 'seconds value is set to 0
            Timer1.Start() 'Timer is started again
            questionscompleted += 1
            lives -= 1 'If it reaches 10 seconds, they have ran out of time
            updatelabel() 'updates label
            question() 'goes to next question
            CheckqcAndLives() 'checks if 10 questions have been completed
        End If

    End Sub

Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click

        'if w gets chosen as 2 & this particular button is clicked then score
increments & timer resets
        If w = 2 Then
            score = score + (1 * (10 - second)) 'score increases
            questionscompleted += 1 'questions completed increases
            Timer1.Stop() 'timer stops
            second = 0 'second = 0 so tht timer resets
            updatelabel() 'labels update
            Timer1.Start() 'timer starts again
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() ' presents new question

        Else
            Timer1.Stop() ' timer stops
            second = 0 'second is set to 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1 ' questions completed increases
            updatelabel() 'labels update
            Timer1.Start() 'starts timer again
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click

        'if x gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If x = 2 Then

            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
```

```vb
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question()
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click

        'if y gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If y = 2 Then
            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() 'presetns new question
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button4_Click(sender As Object, e As EventArgs) Handles Button4.Click

        'if z gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If z = 2 Then
            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop()
            question() 'presetns new question
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
```

```
                updatelabel()
                Timer1.Start()
                CheckqcAndLives() 'checks if 10 questions have been completed
                My.Computer.Audio.Stop()
                question() 'presetns new question
            End If

        End Sub

    Private Sub Timer2_Tick(sender As Object, e As EventArgs) Handles Timer2.Tick
            timetracker += 1 'increases by 1 every second
        End Sub
```

```
Public Class QuizForm2
    Dim milisecond As Integer = 0 'defines milisecond as integer set to value 0
    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Close() 'closes current form
        QuizForm.Close() 'closes quizform
        StudentForm.Show() 'shows student form
    End Sub

    Private Sub QuizForm2_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Timer1.Interval = 1 'sets the interval to 1/1000th of a second
        Timer1.Start() 'Timer starts functioning
        ScoreLabel.Text = "Score: " & QuizForm.finalscore1 'scorelabel text will say
the text in speech marks and the finalscore variable from QuizForm
        HighscoreLabel.Text = "Best: " & QuizForm.highscore1 'Highscorelabel text will
say the text in speech marks and the highscore variable from QuizForm
        QuizForm.Close()
    End Sub

    Private Sub PlayButton_Click(sender As Object, e As EventArgs) Handles
PlayButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Close() 'closes current form
        QuizForm.Close() 'closes quizform so it restarts
        QuizForm.Show() 'shows QuizForm
    End Sub

    Private Sub LeaderboardsButton_Click(sender As Object, e As EventArgs) Handles
LeaderboardsButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Hide() 'hides current form
        QuizForm.Close() 'closes quizform
        LeaderboardsForm.Show() 'shows LeaderboardsForm
    End Sub

    Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles Timer1.Tick
        My.Computer.Audio.Stop() 'stops any audio playing
        milisecond += 1 'adds 1 to integer milisecond
        If milisecond = 1000 Then 'if milisecond = 1000
            Timer1.Stop() 'timer is stopped
```

```vbnet
            End If
        End Sub

End Class
```

```vbnet
Public Class SearchStudentStatsForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
    Dim df As New DataTable
    Dim dataadapter As New OleDb.OleDbDataAdapter
    Dim rownumber As Integer = 0 'defines integer variable to represent row number
which will change depending on whether they press left or right navigation buttons
    Dim highscore As Integer 'defines variable highscore as integer, will be used to
store highscore
    Dim qc As Integer 'defines qc as integer, will be used to store number of quizzes
completed
    Dim totaltime As Integer 'defines totaltime as integer, will be used to store
total amount of time spent on quizzes
    Dim Topic1HS As Integer 'defines Topic1HS As Integer, will b used to store
highscore on topic1quiz
    Dim Topic2HS As Integer 'defines Topic2HS As Integer, will b used to store
highscore on topic2quiz
    Dim Topic3HS As Integer 'defines Topic3HS As Integer, will b used to store
highscore on topic3quiz
    Dim Topic4HS As Integer 'defines Topic4HS As Integer, will b used to store
highscore on topic4quiz
    Dim Topic5HS As Integer 'defines Topic5HS As Integer, will b used to store
highscore on topic5quiz
    Dim Topic6HS As Integer 'defines Topic6HS As Integer, will b used to store
highscore on topic6quiz
    Public Sub displayrecord()
        nametxt.Text = df.Rows(rownumber)(1) 'textbox text value
        highscore = CInt(df.Rows(rownumber)(5)) 'sets variable to HighScore value
        totaltime = df.Rows(rownumber)(12) 'sets variable to Seconds value
        qc = df.Rows(rownumber)(13) 'sets variable to QuizzesCompleted value
        Topic1HS = df.Rows(rownumber)(6) 'sets variable to Topic1HS column value
        Topic2HS = df.Rows(rownumber)(7) 'sets variable to Topic2HS column value
        Topic3HS = df.Rows(rownumber)(8) 'sets variable to Topic3HS column value
        Topic4HS = df.Rows(rownumber)(9) 'sets variable to Topic4HS column value
        Topic5HS = df.Rows(rownumber)(10) 'sets variable to Topic5HS column value
        Topic6HS = df.Rows(rownumber)(11) 'sets variable to Topic6HS column value
        HighScoreLabel.Text = "Highscore: " & highscore
        TotalTimeLabel.Text = "Amount of spent in quizzes: " & Math.Round((totaltime /
60), 2) & " minutes"
        NumQuizzesLabel.Text = "Amount of quizzes completed: " & qc
        Topic1HSLabel.Text = "Topic 1 Highscore: " & Topic1HS
        Topic2HSLabel.Text = "Topic 2 Highscore: " & Topic2HS
        Topic3HSLabel.Text = "Topic 3 Highscore: " & Topic3HS
        Topic4HSLabel.Text = "Topic 4 Highscore: " & Topic4HS
        Topic5HSLabel.Text = "Topic 5 Highscore: " & Topic5HS
        Topic6HSLabel.Text = "Topic 6 Highscore: " & Topic6HS
    End Sub
    Private Sub SearchStudentStatsForm_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        'reads all information from users datatable
        Dim sqlstring As String = "SELECT * FROM Users"
        connection.Open()
        dataadapter = New OleDb.OleDbDataAdapter(sqlstring, connection)
        df.Clear()
        dataadapter.Fill(df)
```

```vbnet
        connection.Close()
        displayrecord()
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
SearchButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'reads all information from users datatable where username is the one that has
been searched for
        Dim sqlstring1 As String = "SELECT * FROM Users WHERE Username = '" &
nametxt.Text & "'"
        connection.Open()
        dataadapter = New OleDb.OleDbDataAdapter(sqlstring1, connection)
        df.Clear()
        dataadapter.Fill(df)
        connection.Close()
        If df.Rows.Count = 0 Then 'if there are no students with that username
            MsgBox("Student doesn't exist") 'display msgbox
            nametxt.Text = "" 'clears textbox
            Exit Sub
        Else
            'updates labels to display the stats of the student that has been searched
for
            displayrecord()
        End If
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form and shows previous form
        Close()
        StudentStatsForm.Show()
    End Sub
End Class
```

```vbnet
Public Class SignUpForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance of the
OleDb.OleDbConnection class with the specified string
    'that says its Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class
    Private Sub SignUpButton_Click(sender As Object, e As EventArgs) Handles
SignUpButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Dim SQLstring1 As String = "select * from Users where Username = '" &
UsernameTextBox.Text & "'" 'lines 46-51 recycled from lines 19-26 with the same
purpose
        connection.Open()
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
```

```vb
        DataAdapter.Fill(dt)
        connection.Close()
        If Not PasswordTextBox.Text = ConfirmPasswordTextBox.Text Then 'This if
statement makes sure that the password and confirm password text boxes
            'are the same
            MsgBox("passwords do not match")
            Exit Sub
        End If
        If PasswordTextBox.Text = "" Or UsernameTextBox.Text = "" Or
ConfirmPasswordTextBox.Text = "" Then 'if there is no text entered in the box, then
            MsgBox("values have not been entered in all fields") 'a messagebox will be
displayed, telling the user they havent entered something in all of the boxes that
they need to
            Exit Sub 'will exit the subroutine to allow the user to now enter
something
        End If
        If PasswordTextBox.Text.Length < 5 Then 'If the number of characters in the
text in PasswordTextBox is less than 5
            MsgBox("The password length must be more than 5 characters") 'msgbox
displayed
            PasswordTextBox.Text = "" 'clears PasswordTextBox
            Exit Sub ' exits sub to not allow account to be created
        End If
        If Not PasswordTextBox.Text <> LCase$(PasswordTextBox.Text) Then
            'if the text in passwordtextbox is not different a complete lowercase
conversion of the text
            MsgBox("password must contain caps") 'msgbox displayed
            Exit Sub 'exit subroutine to not allow record to be created
        End If
        If dt.Rows.Count = 0 Then 'this if statement runs only if username entered
into UsernameTextBox isnt found, so that it does not allow for duplicate accounts as a
validation check
            Dim SQLstring2 As String = "select * from Teachers where Username = '" &
UsernameTextBox.Text & "'"
            connection.Open()
            DataAdapter = New OleDb.OleDbDataAdapter(SQLstring2, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close() 'copies values from teachers data table
            If dt.Rows.Count = 0 Then 'if there are no teachers with that username
then it will allow them to sign up with that username
                Dim sqlString As String = "select * from Users"
                sqlString = "Insert into Users ([Username], [Password], [HighScore],
[Topic1HS], [Topic2HS], [Topic3HS], [Topic4HS], [Topic5HS], [Topic6HS], [Seconds],
[QuizzesCompleted])"
                'inserts a value into columns that store numerical values to prevent
dbnull error elsewhere in the program
                sqlString &= " values ('"
                sqlString &= UsernameTextBox.Text & "', '"
                sqlString &= PasswordTextBox.Text & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "', '"
                sqlString &= "1" & "')"
                connection.Open()
                DataAdapter = New OleDb.OleDbDataAdapter(sqlString, connection)
                dt.Clear()
```

```vbnet
                DataAdapter.Fill(dt)
                connection.Close()
                MsgBox("User created") 'displays a messagebox to the user the user,
telling them their account has been created
                PasswordTextBox.Text = "" 'clears PasswordTextBox
                UsernameTextBox.Text = "" 'clears UsernameTextBox
                Close() ' clsoes signupform
                Form1.Show() 'shows login form again
            Else
                MsgBox("user already exists")
                ConfirmPasswordTextBox.Text = "" 'clears confirmpass textbox
                PasswordTextBox.Text = "" 'clears PasswordTextBox
                UsernameTextBox.Text = "" 'clears UsernameTextBox
                Exit Sub
            End If
        Else
            MsgBox("user already exists")
            ConfirmPasswordTextBox.Text = "" 'clears textbox
            PasswordTextBox.Text = "" 'clears PasswordTextBox
            UsernameTextBox.Text = "" 'clears UsernameTextBox
            Exit Sub
        End If
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form & shows form1 again
        Close()
        Form1.Show()
    End Sub

End Class
```

STATSFORM

```vbnet
Public Class StatsForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class
    Dim sqlstring3 As String 'defines variabke as a string, will be used for sql
commands
    Dim highscore As Integer 'defines variable highscore as integer, will be used to
store highscore
    Dim qc As Integer 'defines qc as integer, will be used to store number of quizzes
completed
    Dim totaltime As Integer 'defines totaltime as integer, will be used to store
total amount of time spent on quizzes
    Dim Topic1HS As Integer 'defines Topic1HS As Integer, will b used to store
highscore on topic1quiz
    Dim Topic2HS As Integer 'defines Topic2HS As Integer, will b used to store
highscore on topic2quiz
    Dim Topic3HS As Integer 'defines Topic3HS As Integer, will b used to store
highscore on topic3quiz
    Dim Topic4HS As Integer 'defines Topic4HS As Integer, will b used to store
highscore on topic4quiz
```

```vbnet
        Dim Topic5HS As Integer 'defines Topic5HS As Integer, will b used to store
highscore on topic5quiz
        Dim Topic6HS As Integer 'defines Topic6HS As Integer, will b used to store
highscore on topic6quiz
    Private Sub StatsForm_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        SQLstring3 = "select * from Users where Username = '" & Form1.variablename &
"'"
        'Defines variable sqlstring1 As data type String, which contains the Command
To read all from the data table Users where username is equal to the username they
signed in with
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(sqlstring3, connection)
        Dim df As New DataTable 'defines df as new datatable
        df.Clear() 'clears datatable
        DataAdapter.Fill(df)
        connection.Close()
        highscore = CInt(df.Rows(0)(5)) 'sets variable to HighScore value
        totaltime = df.Rows(0)(12) 'sets variable to Seconds value
        qc = df.Rows(0)(13) 'sets variable to QuizzesCompleted value
        Topic1HS = df.Rows(0)(6) 'sets variable to Topic1HS column value
        Topic2HS = df.Rows(0)(7) 'sets variable to Topic2HS column value
        Topic3HS = df.Rows(0)(8) 'sets variable to Topic3HS column value
        Topic4HS = df.Rows(0)(9) 'sets variable to Topic4HS column value
        Topic5HS = df.Rows(0)(10) 'sets variable to Topic5HS column value
        Topic6HS = df.Rows(0)(11) 'sets variable to Topic6HS column value
        HighScoreLabel.Text = "Highscore: " & highscore
        TotalTimeLabel.Text = "Amount of spent in quizzes: " & Math.Round((totaltime /
60), 2) & " minutes"
        NumQuizzesLabel.Text = "Amount of quizzes completed: " & qc
        Topic1HSLabel.Text = "Topic 1 Highscore: " & Topic1HS
        Topic2HSLabel.Text = "Topic 2 Highscore: " & Topic2HS
        Topic3HSLabel.Text = "Topic 3 Highscore: " & Topic3HS
        Topic4HSLabel.Text = "Topic 4 Highscore: " & Topic4HS
        Topic5HSLabel.Text = "Topic 5 Highscore: " & Topic5HS
        Topic6HSLabel.Text = "Topic 6 Highscore: " & Topic6HS
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.Background)
        'closes current form and shows studentform again
        Close()
        StudentForm.Show()
    End Sub
End Class
```

STUDENTFORM

```vbnet
Public Class StudentForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class
    Private Sub StudyButton_Click(sender As Object, e As EventArgs) Handles
StudyButton.Click
```

```vb
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.Background)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform
    End Sub

    Private Sub QuizButton_Click(sender As Object, e As EventArgs) Handles
QuizButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.Background)
        Me.Hide() 'hides current form
        Quiz_TopicQuizSelectionForm.Show() 'shows quiz selection form
    End Sub
    Private Sub StudentForm_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Label1.Text = "Welcome, " & Form1.variablename 'Upon loading the form, the
text in the label will be made what is stated
        Dim SQLstring1 As String = "select * from Users where Username = '" &
Form1.variablename & "'"
        'Defines variable sqlstring1 As data type String, which contains the Command
To read all from data table Users where Username is equal to the text
        'entered into UsernameTextBox
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
        connection.Close()
        If IsDBNull(dt.Rows(0)(4)) = False Then 'if there isnt nothing in the
attribute TeacherID
            Label2.Hide()
            Label3.Hide()
            TeacherCodeTextbox.Hide()
            confirm_TeacherCodeTextbox.Hide()
            TeacherCodeCheckButton.Hide()
            'all these things will be hidden as they don tneed to associate a teacher
with their account
        End If
    End Sub

    Private Sub Label1_Click(sender As Object, e As EventArgs)

    End Sub

    Private Sub Label1_Click_1(sender As Object, e As EventArgs) Handles Label1.Click

    End Sub

    Private Sub TextBox1_TextChanged(sender As Object, e As EventArgs) Handles
TeacherCodeTextbox.TextChanged

    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
TeacherCodeCheckButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        If Not TeacherCodeTextbox.Text = confirm_TeacherCodeTextbox.Text Then 'This if
statement makes sure that the TeacherCode and confirm TeacherCode text boxes
            'are the same
```

```vbnet
            MsgBox("TeacherCodes do not match")
            Exit Sub
        End If
        If TeacherCodeTextbox.Text = "" Or confirm_TeacherCodeTextbox.Text = "" Then
'This if statement makes sure that there is text entered into the textboxes before
            'they press the button
            MsgBox("enter something into both textboxes")
            Exit Sub
        End If
        Dim SQLstring1 As String = "select * from Users where Username = '" &
Form1.variablename & "'"
        'Defines variable sqlstring1 As data type String, which contains the Command
To read TeacherID from data table Users where Username is equal to the text
        'entered into UsernameTextBox
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
        connection.Close()
        If IsDBNull(dt.Rows(0)(4)) = True Then 'if there is nothing in TeacherID
            Dim sqlString2 As String = "select * from Teachers where TeacherID = '" &
TeacherCodeTextbox.Text & "'" 'defines sql string to select all values from Teachers
table
            'where teacherID is equal to what has been entered into the textboxes
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(sqlString2, connection)
            dt.Clear()
            DataAdapter.Fill(dt)
            connection.Close()
            If dt.Rows.Count = 0 Then 'if  the teachercodetextbox text doesnt appear
in the database then there is no associated teacher with the code they have entered
                'therefore the following msgbox is displayed
                MsgBox("Teacher doesn't exist")
                'following 2 lines clear textboxes
                TeacherCodeTextbox.Text = ""
                confirm_TeacherCodeTextbox.Text = ""
                Exit Sub 'will not insert anything into the TeacherID attribute of the
Users table
            Else
                Dim sqlString3 As String = "select * from Users where Username = '" &
Form1.variablename & "'" 'defines sql statemnt to insert the teacher code into the
datatable
                sqlString3 = "UPDATE Users set [TeacherID] = '" &
TeacherCodeTextbox.Text 'updates teacher id in users table
                sqlString3 &= "' WHERE [Username] = '" & Form1.variablename & "'"
'where username is equal to that of the user who is signed in
                connection.Open()
                DataAdapter = New OleDb.OleDbDataAdapter(sqlString3, connection)
                dt.Clear()
                DataAdapter.Fill(dt)
                connection.Close()
                MsgBox("Teacher added") 'notifys user

                'hide
                Label2.Hide()
                Label3.Hide()
                TeacherCodeTextbox.Hide()
                confirm_TeacherCodeTextbox.Hide()
                TeacherCodeCheckButton.Hide()
```

```vbnet
                'all these things will be hidden as they no longer need to associate a
teacher with their account
            End If
        Else
            MsgBox("bruh how can you see this")  'this is displayed if there is
already a value in the TeacherID attribute of Users table
            'they shouldnt be able to enter anything as there will be an if statement
that checks if there is anything in that column and if so, the labels, textboxes &
button
            'related to entering a teachercode will be hidden
        End If
    End Sub

    Private Sub TextBox1_TextChanged_1(sender As Object, e As EventArgs) Handles
confirm_TeacherCodeTextbox.TextChanged

    End Sub

    Private Sub ChangePasswordButton_Click(sender As Object, e As EventArgs) Handles
ChangePasswordButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.Background)
        'closes current form & opens changestudentpasswordform form
        Close()
        ChangeStudentPasswordForm.Show()
    End Sub

    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles
StatsButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.Background)
        'closes current form and shows statsform
        StatsForm.Show()
        Close()
    End Sub

    Private Sub SignOutButton_Click(sender As Object, e As EventArgs) Handles
SignOutButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form & shows previous form
        Close()
        Form1.Show()
    End Sub
End Class
```

STUDENTPASSWORDSLISTFORM

```vbnet
Imports System.Data.OleDb
'Enables data types & classes to be referenced without namespace qualification.
Public Class StudentPasswordsListForm
    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form, opens teacher form again
        Close()
        TeacherForm.Show()
```

```vbnet
    End Sub
    'defines variables
    Dim connection As OleDbConnection = New
OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data Source=RoughCode1DB.accdb")
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Users", 500, HorizontalAlignment.Left)
        ListView1.Columns.Add("Password", 500, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub StudentPasswordsListsForm_Load(sender As Object, e As EventArgs)
Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Users where TeacherID = '" &
Form1.Teachercode & "'", connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub
End Class
```

STUDENTSTATSFORM

```vbnet
Public Class StudentStatsForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
    Dim df As New DataTable
    Dim dataadapter As New OleDb.OleDbDataAdapter
    Dim rownumber As Integer = 0 'defines integer variable to represent row number
which will change depending on whether they press left or right navigation buttons
    Dim highscore As Integer 'defines variable highscore as integer, will be used to
store highscore
    Dim qc As Integer 'defines qc as integer, will be used to store number of quizzes
completed
    Dim totaltime As Integer 'defines totaltime as integer, will be used to store
total amount of time spent on quizzes
    Dim Topic1HS As Integer 'defines Topic1HS As Integer, will b used to store
highscore on topic1quiz
    Dim Topic2HS As Integer 'defines Topic2HS As Integer, will b used to store
highscore on topic2quiz
```

```vbnet
        Dim Topic3HS As Integer 'defines Topic3HS As Integer, will b used to store
highscore on topic3quiz
        Dim Topic4HS As Integer 'defines Topic4HS As Integer, will b used to store
highscore on topic4quiz
        Dim Topic5HS As Integer 'defines Topic5HS As Integer, will b used to store
highscore on topic5quiz
        Dim Topic6HS As Integer 'defines Topic6HS As Integer, will b used to store
highscore on topic6quiz
    Public Sub displayrecord()
        nametxt.Text = df.Rows(rownumber)(1) 'textbox text value
        highscore = CInt(df.Rows(rownumber)(5)) 'sets variable to HighScore value
        totaltime = df.Rows(rownumber)(12) 'sets variable to Seconds value
        qc = df.Rows(rownumber)(13) 'sets variable to QuizzesCompleted value
        Topic1HS = df.Rows(rownumber)(6) 'sets variable to Topic1HS column value
        Topic2HS = df.Rows(rownumber)(7) 'sets variable to Topic2HS column value
        Topic3HS = df.Rows(rownumber)(8) 'sets variable to Topic3HS column value
        Topic4HS = df.Rows(rownumber)(9) 'sets variable to Topic4HS column value
        Topic5HS = df.Rows(rownumber)(10) 'sets variable to Topic5HS column value
        Topic6HS = df.Rows(rownumber)(11) 'sets variable to Topic6HS column value
        HighScoreLabel.Text = "Highscore: " & highscore
        TotalTimeLabel.Text = "Amount of spent in quizzes: " & Math.Round((totaltime /
60), 2) & " minutes"
        NumQuizzesLabel.Text = "Amount of quizzes completed: " & qc
        Topic1HSLabel.Text = "Topic 1 Highscore: " & Topic1HS
        Topic2HSLabel.Text = "Topic 2 Highscore: " & Topic2HS
        Topic3HSLabel.Text = "Topic 3 Highscore: " & Topic3HS
        Topic4HSLabel.Text = "Topic 4 Highscore: " & Topic4HS
        Topic5HSLabel.Text = "Topic 5 Highscore: " & Topic5HS
        Topic6HSLabel.Text = "Topic 6 Highscore: " & Topic6HS
    End Sub
    Private Sub firstrecbtn_Click(sender As Object, e As EventArgs) Handles
firstrecbtn.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'displays the first account
        rownumber = 0
        displayrecord()
    End Sub
    Private Sub lastrecbtn_Click(sender As Object, e As EventArgs) Handles
lastrecbtn.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'displays the last account
        rownumber = df.Rows.Count - 1
        displayrecord()
    End Sub
    Private Sub leftrecbtn_Click(sender As Object, e As EventArgs) Handles
leftrecbtn.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'if it was the first account then it cannot go left again
        If rownumber = 0 Then
            rownumber = rownumber
        Else
            'if it was not the first account then the rownumber can decrease to show
the previous account
            rownumber -= 1
            displayrecord()
        End If
```

```vbnet
    End Sub
    Private Sub rightrecbtn_Click(sender As Object, e As EventArgs) Handles
rightrecbtn.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'if it was the last possible account then it cannot go right again
        If rownumber = df.Rows.Count - 1 Then
            rownumber = rownumber
        Else
            'if it was not the last possible account then the rownumber can decrease
to show the next account
            rownumber += 1
            displayrecord()
        End If
    End Sub

    Private Sub StudentStatsForm_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        'reads all information from users datatable
        Dim sqlstring As String = "SELECT * FROM Users"
        connection.Open()
        dataadapter = New OleDb.OleDbDataAdapter(sqlstring, connection)
        df.Clear()
        dataadapter.Fill(df)
        connection.Close()
        If df.Rows.Count = 0 Then 'if no students exist
            MsgBox("No students exist") 'msgbox displayed to notify the teacher
            nametxt.Text = "" 'textbox clears
            Close() 'form is closed
            TeacherForm.Show() 'shows teacherform again
        Else
            sqlstring = "SELECT * FROM Users WHERE TeacherID = '" & Form1.Teachercode
& "'" 'selects only the teachers students
            connection.Open()
            dataadapter = New OleDb.OleDbDataAdapter(sqlstring, connection)
            df.Clear()
            dataadapter.Fill(df)
            connection.Close()
            If df.Rows.Count = 0 Then 'if no students exist
                MsgBox("No students exist") 'msgbox displayed to notify the teacher
                nametxt.Text = "" 'textbox clears
                'sets labels to the following as it looks better than having them all
set to "label1, label2, etc"
                HighScoreLabel.Text = "Highscore: "
                TotalTimeLabel.Text = "Amount of spent in quizzes: "
                NumQuizzesLabel.Text = "Amount of quizzes completed: "
                Topic1HSLabel.Text = "Topic 1 Highscore: "
                Topic2HSLabel.Text = "Topic 2 Highscore: "
                Topic3HSLabel.Text = "Topic 3 Highscore: "
                Topic4HSLabel.Text = "Topic 4 Highscore: "
                Topic5HSLabel.Text = "Topic 5 Highscore: "
                Topic6HSLabel.Text = "Topic 6 Highscore: "
                'navigation buttons hidden as you cannot navigate if there are no
associated students
                firstrecbtn.Hide()
                leftrecbtn.Hide()
                rightrecbtn.Hide()
                lastrecbtn.Hide()
            Else
                'if there are students then it can run displayrecord() sub
                displayrecord()
```

```vb
            End If
        End If

    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form and opens previous form
        Close()
        TeacherForm.Show()
    End Sub

    Private Sub Button1_Click_1(sender As Object, e As EventArgs) Handles
SearchFormButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'closes current form shows searchstudentstatsform
        Close()
        SearchStudentStatsForm.Show()
    End Sub
End Class
```

STUDYFORM

```vb
Public Class StudyForm
    Private Sub Topic1_Click(sender As Object, e As EventArgs) Handles Topic1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'closes current form and shows topic1Linkform
        Close()
        Topic1LinkForm.Show()
    End Sub

    Private Sub Topic2_Click(sender As Object, e As EventArgs) Handles Topic2.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Me.Hide()
        Topic2Form.Show()
    End Sub

    Private Sub Topic3_Click(sender As Object, e As EventArgs) Handles Topic3.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Me.Hide()
        topic3Form.Show()
    End Sub

    Private Sub Topic4_Click(sender As Object, e As EventArgs) Handles Topic4.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Me.Hide()
```

```vbnet
        topic4Form.Show()
    End Sub

    Private Sub Topic5_Click(sender As Object, e As EventArgs) Handles Topic5.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Me.Hide()
        topic5Form.Show()
    End Sub

    Private Sub Topic6_Click(sender As Object, e As EventArgs) Handles Topic6.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Me.Hide()
        topic6Form.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides the current form
        StudentForm.Show() 'shows studentform again
    End Sub

End Class
```

TEACHERFORM

```vbnet
Public Class TeacherForm
    Private Sub TeacherForm_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        Label1.Text = "Welcome, " & Form1.variablename 'Upon loading the form, the
text in the label will be made what is stated
        Label2.Text = "TeacherCode = " & Form1.Teachercode 'Upon loading the form, the
text in the label will be made what is stated
    End Sub
    Private Sub PromoteTeacherButton_Click(sender As Object, e As EventArgs) Handles
PromoteTeacherButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        PromoteTeacherForm.Show()
    End Sub

    Private Sub RecoverStudentPassButton_Click(sender As Object, e As EventArgs)
Handles RecoverStudentPassButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'closes form & opens studentpasswordlistform
        Close()
        StudentPasswordsListForm.Show()
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'closes current form & opens StudentStatsForm
```

```vbnet
        Close()
        StudentStatsForm.Show()
    End Sub

    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles
SignOutButton.Click
        'closes current form 7 shows previous form
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.Background)
        Close()
        Form1.Show()
    End Sub

End Class
```

TOPIC1EQFORM

```vbnet
Public Class Topic1EQForm
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'opens pdf with exam questions
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/eq/1.1.1
Structure and function of the processor (A Level only).pdf")
    End Sub

    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        'opens pdf with exam questions
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/eq/1.1.2
Types of Processor (A Level only).pdf")
    End Sub

    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        'opens pdf with exam questions
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/eq/1.1.3
Input, Output and Storage.pdf")
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'hides current form and shows topic1linkform
        Hide()
        Topic1LinkForm.Show()
    End Sub

End Class
```

TOPIC1FORM

```vbnet
Imports System.Data.OleDb

Public Class Topic1Form
    'defines variables
    Dim connection As OleDbConnection
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
        ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
```

```vbnet
            ListView1.FullRowSelect = True
    End Sub

    Private Sub Topic1Form_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 1",
connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        Me.Hide() 'hides current form
        Topic1LinkForm.Show() 'shows topic1linkform again
    End Sub

End Class
```

TOPIC1LEADERBOARDSFORM

```vbnet
Imports System.Data.OleDb
Public Class Topic1LeaderboardsForm


    'defines variables
    Dim connection As OleDbConnection = New
OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data Source=RoughCode1DB.accdb")
        Dim command As OleDbCommand
        Dim data_reader As OleDbDataReader
        Sub ListViewSetup()
            'add columns to the listview
            ListView1.Columns.Add("Users", 500, HorizontalAlignment.Left)
        ListView1.Columns.Add("Topic1HighScore", 500, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
            'display grid lines
            ListView1.GridLines = True
            'allow full row selection
            ListView1.FullRowSelect = True
        End Sub

    Private Sub Topic1LeaderboardsForm_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        Dim data_reader1 As OleDbDataReader
        'setup listview
        ListViewSetup()
        'connect to ms.access database
```

```vbnet
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Users where TeacherID = '" &
Form1.Teachercode & "'", connection)
        data_reader1 = command.ExecuteReader

        'adds data to listview
        If data_reader1.HasRows Then
            While data_reader1.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader1.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader1.GetValue(6)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'closes form & shows previous form again
        Close()
        Topic1QuizForm2.Show()
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
MsgButton.Click
        'msgbox to let the user know why the leaderboards may be empty
        MsgBox("If there is nothing displayed in the leaderboards, it is likely
because you are not associated with a class. Assign a teacher by entering their
teacher code in the main menu
& this will enable you to view the highscores of your classmates.")
    End Sub

End Class
```

TOPIC1LINKFORM

```vbnet
Public Class Topic1LinkForm
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles EQButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form & shows topic1eqform
        Hide()
        Topic1EQForm.Show()
    End Sub

    Private Sub QQButton_Click(sender As Object, e As EventArgs) Handles
QQButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and shows topic1form
        Hide()
        Topic1Form.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'hides current form and shows previous form - studyform
```

```vbnet
        Hide()
        StudyForm.Show()
    End Sub

    Private Sub Topic1NotesButton_Click(sender As Object, e As EventArgs) Handles
Topic1NotesButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and shows topic1notesform
        Hide()
        Topic1NotesForm.Show()
    End Sub
End Class
```

TOPIC1NOTESFORM

```vbnet
Public Class Topic1NotesForm
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/notes/1.1.1.
Structure and Function of the Processor notes.pdf")
    End Sub

    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/notes/1.1.2.
Types of Processor notes.pdf")
    End Sub

    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer Science/Coursework/pmt/topic1/notes/1.1.3.
Input, Output and Storage notes.pdf")
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'Closes current form and opens previous form topic1linkform
        Close()
        Topic1LinkForm.Show()
    End Sub
End Class
```

TOPIC1QUIZFORM

```vbnet
Public Class Topic1QuizForm
    Dim connection As New
OleDb.OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb") 'defines connection as a new instance
```

```vbnet
    'of the OleDb.OleDbConnection class with the specified string that says its
Provider and source, linking my database to the program
    Dim dt As New DataTable 'defines dt as a new instance of the DataTable class
    Dim DataAdapter As New OleDb.OleDbDataAdapter 'defines DataAdapter as a new
instance of the OleDb.OleDBDataAdapter class

    Dim score As Integer = 0 'defines variable score as integer with its initial value
set to 0
    Dim lives As Integer = 3 'defines variable lives as integer with its initial value
set to 3
    Dim questionscompleted As Integer = 0 'defines questionscompleted as integer with
its initial value  set to 0
    Dim second As Integer 'defines second as integer to define each tick of 1000
miliseconds as a second
    Dim i As Integer = 0

    'the following integer variables will be used to randomly decide the column
associated with each button
    Dim w As Integer
    Dim x As Integer
    Dim y As Integer
    Dim z As Integer

    ' for the row
    Dim v As Integer

    'used to calculate final score after quiz is over
    Dim finalscore As Integer
    'used for displaying score on QuizForm2
    Public finalscore1 As Integer
    'used to compare to final score
    Dim highscore As Integer
    'used for displaying highscore on QuizForm2
    Public highscore1 As Integer

    Dim sqlstring3 As String

    'array containing the row numbers that have been used
    Dim usedquestions(10) As Integer

    Public Sub question()
        My.Computer.Audio.Play(My.Resources.KAHOOT_Music__10_Second_Countdown__33,
AudioPlayMode.Background) 'plays audio
        ' Initialize the random-number generator & following lines try to make it so
that w, x, y, z are all unique values between 2 and 5 inclusive
        Dim usednumbers(4) As Integer 'array defined as usednumbers and limit of 5
values
        Dim count = 0  'dims count as integer set to 0
        Randomize() ' initializes random number generator
        Dim rand As Integer = Int(Math.Floor((5 - 2) + 1) * Rnd() + 2) 'defines rand
as integer and sets it to a randomly generated number between 2 & 5
        While count < 4 ' while count is less than 4 so will repeat until there are 4
values in the array
            If usednumbers.Contains(rand) Then 'if array usednumbers contains the
randomly generated number
                rand = Int(Math.Floor((5 - 2) + 1) * Rnd() + 2) 'gets a new randomly
generated number value for rand
            Else
                usednumbers(count) = rand 'sets the current count as element where
rand is its value
                count += 1 'count increments by 1
            End If
```

```vb
        End While
        w = usednumbers(0) 'w set to usednumbers array element 0
        x = usednumbers(1) 'x set to usednumbers array element 1
        y = usednumbers(2) 'y set to usednumbers array element 2
        z = usednumbers(3) 'z set to usednumbers array element 3
        v = Int(Math.Floor((11 - 1) + 1) * Rnd() + 1) 'defines v as integer and sets
it to a randomly generated number between 1 & 11

        If questionscompleted > 0 Then
            If usedquestions.Contains(v) Then 'if array usedquestions contains the
randomly generated number
                While usedquestions.Contains(v)
                    Randomize() ' initializes random number generator
                    v = Int(Math.Floor((11 - 1) + 1) * Rnd() + 1) 'defines v as
integer and sets it to a randomly generated number between 1 & 11
                End While
            Else
                usedquestions(questionscompleted) = v 'sets the current
questionscompleted as element where v is its value
            End If
        Else
            usedquestions(0) = v
        End If


        Dim SQLstring1 As String = "SELECT * FROM Questions WHERE TopicID = 1"
        'Defines variable sqlstring1 As data type String, which contains the Command
To read all from the data table Questions
        connection.Open() 'opens the database connection with the property settings by
the connectionString that I defined for connection
        DataAdapter = New OleDb.OleDbDataAdapter(SQLstring1, connection)
        dt.Clear()
        DataAdapter.Fill(dt)
        connection.Close()


        QuestionLabel.Text = dt.Rows(v)(1) 'sets question label to  the randomly
selected question
        'Set the text of the following buttons to a record from random row with the
column a random value between 2 and 5 inclusive
        Button1.Text = dt.Rows(v)(w)
        Button2.Text = dt.Rows(v)(x)
        Button3.Text = dt.Rows(v)(y)
        Button4.Text = dt.Rows(v)(z)


    End Sub
    Public Sub CheckqcAndLives()
        If questionscompleted >= 10 Or lives <= 0 Then 'if 10 questions have been
completed or lives = 0

            sqlstring3 = "select * from Users where Username = '" & Form1.variablename
& "'"
            'Defines variable sqlstring1 As data type String, which contains the
Command To read all from the data table Users where username is equal to the username
they signed in with
            connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
            DataAdapter = New OleDb.OleDbDataAdapter(sqlstring3, connection)
            Dim df As New DataTable
            df.Clear()
            DataAdapter.Fill(df)
```

```vb
            connection.Close()
            highscore = CInt(df.Rows(0)(6))
            finalscore = score * (lives + 1) 'final score = score multiplied by lives
remaining plus 1, so if no loves remaining, they do not recieve a multiplier
            finalscore1 = finalscore
            highscore1 = highscore
            If finalscore > highscore Then
                Dim SQLstring2 As String = "UPDATE Users set [Topic1HS] = '" &
finalscore
                SQLstring2 &= "' WHERE [Username] = '" & Form1.variablename & "'"
                ''Defines variable sqlstring2 As data type String, which contains the
Command To Update the Column Topic1HS where Username is equal to that of the User
currently signed in
                connection.Open() 'opens the database connection with the property
settings by the connectionString that I defined for connection
                DataAdapter = New OleDb.OleDbDataAdapter(SQLstring2, connection)
                dt.Clear()
                DataAdapter.Fill(dt)
                connection.Close()
            End If
            My.Computer.Audio.Stop() 'stops audio
            Me.Hide() 'hides current form
            Topic1QuizForm2.Show() 'shows Topic1QuizForm2
        End If
    End Sub
Public Sub updatelabel()
        ScoreLabel.Text = "Score = " & score 'label displays the current score
        LivesLabel.Text = "Lives = " & lives 'label displays the current amount of
lives remaining
        QuestionsCompletedLabel.Text = "QC = " & questionscompleted 'displays
questions completed
    End Sub

    Private Sub Topic1QuizForm_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        Timer1.Interval = 1000 'sets the interval to 1 second
        Timer1.Start() 'Timer starts functioning
        updatelabel() 'updates labels
        question() 'presents first question
    End Sub

    Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles Timer1.Tick
        second = second + 1 'every time it ticks, variable second increases by 1
        SecondsLabel.Text = second
        If second >= 10 Then 'if second reaches 10
            Timer1.Stop() 'Timer stops functioning
            second = 0 'seconds value is set to 0
            Timer1.Start() 'Timer is started again
            questionscompleted += 1
            lives -= 1 'If it reaches 10 seconds, they have ran out of time
            updatelabel() 'updates label
            question() 'goes to next question
            CheckqcAndLives() 'checks if 10 questions have been completed
        End If
    End Sub
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'if w gets chosen as 2 & this particular button is clicked then score
increments & timer resets
        If w = 2 Then
            score = score + (1 * (10 - second)) 'score increases
            questionscompleted += 1 'questions completed increases
            Timer1.Stop() 'timer stops
```

```vb
            second = 0 'second = 0 so tht timer resets
            updatelabel() 'labels update
            Timer1.Start() 'timer starts again
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() ' presents new question
        Else
            Timer1.Stop() ' timer stops
            second = 0 'second is set to 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1 ' questions completed increases
            updatelabel() 'labels update
            Timer1.Start() 'starts timer again
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        'if x gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If x = 2 Then
            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question()
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        'if y gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If y = 2 Then
            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
            updatelabel()
```

```
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        End If
    End Sub
    Private Sub Button4_Click(sender As Object, e As EventArgs) Handles Button4.Click
        'if z gets chosen as 2 & this particular button is clicked then score
increments  & timer resets
        If z = 2 Then
            score = score + (1 * (10 - second))
            questionscompleted += 1
            Timer1.Stop()
            second = 0
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        Else
            Timer1.Stop()
            second = 0
            lives -= 1 'takes 1 away from lives
            questionscompleted += 1
            updatelabel()
            Timer1.Start()
            CheckqcAndLives() 'checks if 10 questions have been completed
            My.Computer.Audio.Stop() 'stops audio
            question() 'presetns new question
        End If
    End Sub
End Class
```

TOPIC1QUIZFORM2

```
Public Class Topic1QuizForm2
    Dim milisecond As Integer = 0 'defines milisecond as integer set to value 0
    Private Sub LeaderboardsButton_Click(sender As Object, e As EventArgs) Handles
LeaderboardsButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form & shows Topic1LeaderboardsForm
        Hide()
        Topic1LeaderboardsForm.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes topic1quizform and current form & shows the TopicQuizSelectionForm
        Topic1QuizForm.Close()
        Close()
        TopicQuizSelectionForm.Show()
    End Sub
    Private Sub Topic1QuizForm2_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        My.Computer.Audio.Stop() 'stops any audio playing
        Timer1.Interval = 1
        Timer1.Start()
```

```vbnet
        ScoreLabel.Text = "Score: " & Topic1QuizForm.finalscore1 'scorelabel text will
say the text in speech marks and the finalscore variable from Topic1QuizForm
        HighscoreLabel.Text = "Best: " & Topic1QuizForm.highscore1 'Highscorelabel
text will say the text in speech marks and the highscore variable from Topic1QuizForm
        Topic1QuizForm.Close() 'closes topic1 quizform
    End Sub

    Private Sub PlayButton_Click(sender As Object, e As EventArgs) Handles
PlayButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        Close() 'closes current form
        Topic1QuizForm.Close() 'closes topic1quizform so it restarts
        Topic1QuizForm.Show() 'shows topic1QuizForm
    End Sub
    Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles Timer1.Tick
        My.Computer.Audio.Stop() 'stops any audio playing
        milisecond += 1 'adds 1 to integer milisecond
        If milisecond = 1000 Then 'if milisecond = 1000
            Timer1.Stop() 'timer is stopped
        End If
    End Sub
End Class
```

TOPIC2EQFORM

```vbnet
Public Class Topic2EQForm
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'opens pdf with eq
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/eq/1.2.1.pdf")
    End Sub

    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        'opens pdf with eq
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/eq/1.2.2.pdf")
    End Sub

    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        'opens pdf with eq
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/eq/1.2.3.pdf")
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'Closes current form and opens previous form topic2linkform
        Close()
        Topic2LinkForm.Show()
    End Sub

End Class
```

TOPIC2FORM

```vbnet
Imports System.Data.OleDb
Public Class Topic2Form


    'defines variables
```

```vb
    Dim connection As OleDbConnection
        Dim command As OleDbCommand
        Dim data_reader As OleDbDataReader
        Sub ListViewSetup()
            'add columns to the listview
            ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
            ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
            'Display listview in details view
            ListView1.View = View.Details
            'display grid lines
            ListView1.GridLines = True
            'allow full row selection
            ListView1.FullRowSelect = True
        End Sub

        Private Sub topic2Form_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
            'setup listview
            ListViewSetup()
            'connect to ms.access database
            connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
            connection.Open()
            'reading data from Questions table
            command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 2",
connection)
            data_reader = command.ExecuteReader

            'adds data to listview
            If data_reader.HasRows Then
                While data_reader.Read
                    Dim newitem As New ListViewItem()
                    newitem.Text = data_reader.GetValue(1) 'first column
                    newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                    ListView1.Items.Add(newitem)
                End While
            End If
        End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform again
    End Sub


End Class
```

TOPIC2LINKFORM

```vb
Public Class Topic2LinkForm

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles EQButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form & shows topic2eqform
        Hide()
        Topic2EQForm.Show()
    End Sub
```

```
    Private Sub QQButton_Click(sender As Object, e As EventArgs) Handles
QQButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and shows topic2form
        Hide()
        Topic2Form.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'hides current form and shows previous form - studyform
        Hide()
        StudyForm.Show()
    End Sub

    Private Sub topic2NotesButton_Click(sender As Object, e As EventArgs) Handles
topic2NotesButton.Click
        'hides current form and shows topic2notesform
        Hide()
        topic2NotesForm.Show()
    End Sub

End Class
```

TOPIC2NOTESFORM

```
Public Class Topic2NotesForm
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/notes/1.2.1.pdf")
    End Sub

    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/notes/1.2.2.pdf")
    End Sub

    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'opens pdf with notes
        Process.Start("D:/College/Computer
Science/Coursework/pmt/topic2/notes/1.2.3.pdf")
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
```

```vb
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'Closes current form and opens previous form topic2linkform
        Close()
        Topic2LinkForm.Show()
    End Sub

End Class
```

TOPIC3FORM

```vb
Imports System.Data.OleDb

Public Class topic3Form
    'defines variables
    Dim connection As OleDbConnection
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
        ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub topic3Form_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 3",
connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform again
    End Sub

End Class
```

```vb
Imports System.Data.OleDb

Public Class topic4Form
    'defines variables
    Dim connection As OleDbConnection
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
        ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub topic4Form_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 4",
connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform again
    End Sub

End Class
```

```vb
Imports System.Data.OleDb

Public Class topic5Form
    'defines variables
    Dim connection As OleDbConnection
    Dim command As OleDbCommand
```

```vbnet
        Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
        ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub topic5Form_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 5",
connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform again
    End Sub

End Class
```

TOPIC6FORM

```vbnet
Imports System.Data.OleDb

Public Class topic6Form
    'defines variables
    Dim connection As OleDbConnection
    Dim command As OleDbCommand
    Dim data_reader As OleDbDataReader
    Sub ListViewSetup()
        'add columns to the listview
        ListView1.Columns.Add("Questions", 800, HorizontalAlignment.Left)
        ListView1.Columns.Add("Correct Answer", 900, HorizontalAlignment.Left)
        'Display listview in details view
        ListView1.View = View.Details
        'display grid lines
```

```vbnet
        ListView1.GridLines = True
        'allow full row selection
        ListView1.FullRowSelect = True
    End Sub

    Private Sub topic6Form_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        'setup listview
        ListViewSetup()
        'connect to ms.access database
        connection = New OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=RoughCode1DB.accdb")
        connection.Open()
        'reading data from Questions table
        command = New OleDbCommand("SELECT * FROM Questions WHERE TopicID = 6",
connection)
        data_reader = command.ExecuteReader

        'adds data to listview
        If data_reader.HasRows Then
            While data_reader.Read
                Dim newitem As New ListViewItem()
                newitem.Text = data_reader.GetValue(1) 'first column
                newitem.SubItems.Add(data_reader.GetValue(2)) 'second column
                ListView1.Items.Add(newitem)
            End While
        End If
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        Me.Hide() 'hides current form
        StudyForm.Show() 'shows studyform again
    End Sub

End Class
```

TOPICQUIZSELECTIONFORM

```vbnet
Public Class TopicQuizSelectionForm
    Private Sub Topic1_Click(sender As Object, e As EventArgs) Handles Topic1.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic1quizform
        Close()
        Topic1QuizForm.Show()
    End Sub

    Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles
ExitButton.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.mp_player_leave_elec,
AudioPlayMode.WaitToComplete)
        'closes current form and shows previous form
        Close()
        Quiz_TopicQuizSelectionForm.Show()
    End Sub

    Private Sub Topic2_Click(sender As Object, e As EventArgs) Handles Topic2.Click
        'plays audio
```

```vb
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic2quizform
        Close()
        'Topic2QuizForm.Show()
    End Sub

    Private Sub Topic3_Click(sender As Object, e As EventArgs) Handles Topic3.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic3quizform
        Close()
        'Topic3QuizForm.Show()
    End Sub

    Private Sub Topic4_Click(sender As Object, e As EventArgs) Handles Topic4.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic4quizform
        Close()
        'Topic4QuizForm.Show()
    End Sub

    Private Sub Topic5_Click(sender As Object, e As EventArgs) Handles Topic5.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic5quizform
        Close()
        'Topic5QuizForm.Show()
    End Sub

    Private Sub Topic6_Click(sender As Object, e As EventArgs) Handles Topic6.Click
        'plays audio
        My.Computer.Audio.Play(My.Resources.minecraft_click2,
AudioPlayMode.WaitToComplete)
        'hides current form and opens topic6quizform
        Close()
        'Topic6QuizForm.Show()
    End Sub
End Class
```