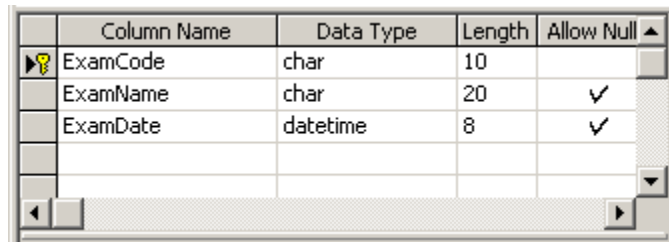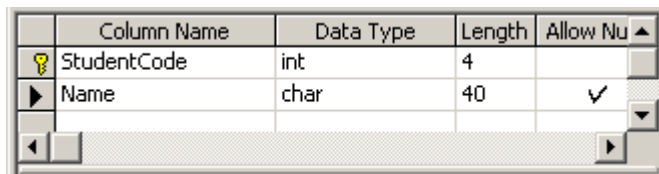Create a database named **Results** in SQL Server and three tables under it with structures as shown in Figure 5.3, 5.4 and 5.5. Then create a Windows application that will display records from all the three tables in a Datagrid. It should also have a facility to search for records based on a given student code.

	Column Name	Data Type	Length	Allow Null
🔑	ExamCode	char	10	
	ExamName	char	20	✓
	ExamDate	datetime	8	✓
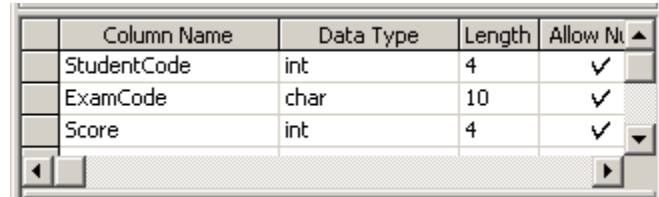
Figure 5.3: Table Structure for Exams

	Column Name	Data Type	Length	Allow Nu
🔑	StudentCode	int	4	
▶	Name	char	40	✓

Figure 5.4: Table Structure for Student

	Column Name	Data Type	Length	Allow Nu
	StudentCode	int	4	✓
	ExamCode	char	10	✓
	Score	int	4	✓

Figure 5.5: Table Structure for Result

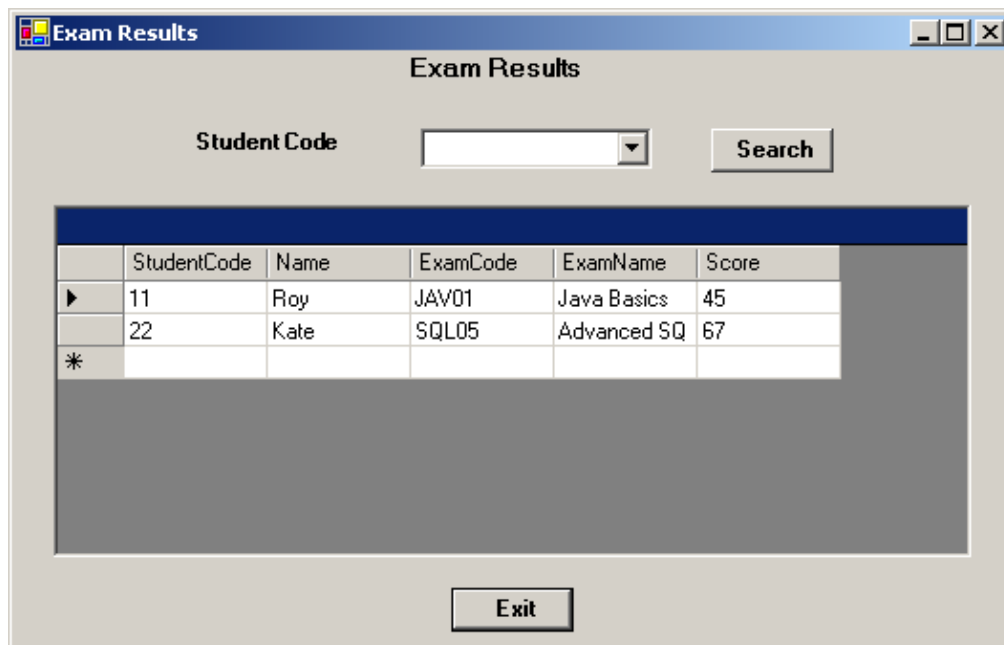The application can have runtime output similar to Figure 5.6:

Figure 5.6: Data grid showing data from three tables

On selecting a particular student code from the combo box, the output can be similar to Figure 5.7. (Actual output may vary depending on the contents of the tables and search criteria you give)
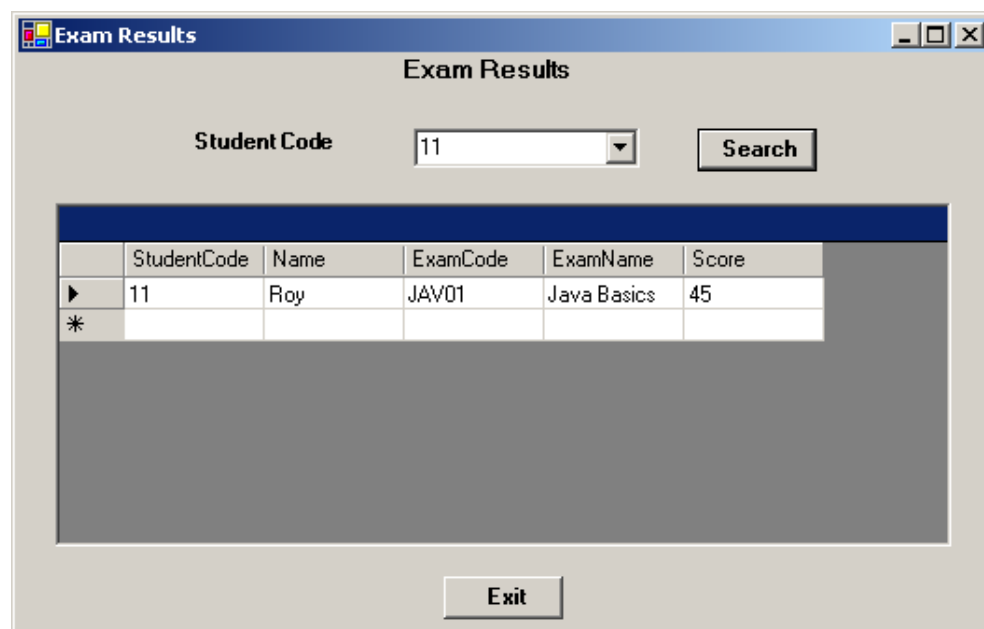

Figure 5.7: Output of Search

Hints: Use DataAdapters and DataSets.

Solution:

1. **Create a project named DataGridDemo in the existing solution. Rename Form1.cs to `Results.cs` and name to `frmResults`. Change the** `Text` **property of the form to `'Exam Results'`.**

2. **Add a** `ComboBox` **control, a** `DataGrid` **control, two** `Button` **controls.**

3. **Name the controls appropriately as shown in the Table 10.2.**

Control	Property	Value
ComboBox	Name	cboStudentCode
	Text	
Button	Name	btnSearch
	Text	Search
Button	Name	btnExit
	Text	Exit
DataGrid	Name	dbgResults

Table 5.2: Properties of controls on frmResults

4. **Declare the variables in the declaration section**

```
 private SqlConnection conn;
 private SqlCommand commnd;
 private SqlDataAdapter adapter;
private DataSet dSetExam;
 private SqlDataReader reader;
 private string sqlstr;
```

5. **Add the following code to the** `Load` **event of the form**

```
  private void frmResults_Load(object sender, System.EventArgs
e)
    {
       //create and open the database connection
    try
    {
    conn =new SqlConnection("Server=MYSERVER ; Initial Catalog
= Results; User Id=sa;pwd=playware;");
    commnd=new SqlCommand("select * from Student", conn);
    conn.Open ();
    populateComboBox();
       if ((reader!= null) && (!reader.IsClosed))
          reader.Close();
    sqlstr="select Student.StudentCode,Name, Exams.ExamCode,
ExamName,Score from Student,Exams,Result where
Exams.ExamCode=Result.ExamCode and Student.StudentCode
=Result.StudentCode";
```

```
      adapter=new SqlDataAdapter(sqlstr,conn);
      dSetExam = new DataSet("ExamResults");
      adapter.Fill(dSetExam,"ExamResults");
      dbgResults.DataSource = dSetExam.Tables[0];
      }
      catch(Exception excep)
      {
         MessageBox.Show(excep.Message );
           MessageBox.Show(excep.StackTrace );
      }
      }
```

6. **Add the following code to the** `Click` **events of the various controls**

```
      private void btnExit_Click(object sender, System.EventArgs
e)
      {
         conn.Close();
         Application.Exit();
      }

      private void btnSearch_Click(object sender,
System.EventArgs e)
      {
         if ((reader!= null) && (!reader.IsClosed))
            reader.Close();
         sqlstr="select Student.StudentCode,Name, Exams.ExamCode,
ExamName,Score from Student,Exams,Result where
Exams.ExamCode=Result.ExamCode and Student.StudentCode
=Result.StudentCode and
Student.StudentCode="+Convert.ToInt16(cboStudentCode.Text);
         adapter=new SqlDataAdapter(sqlstr,conn);
         dSetExam = new DataSet("ExamResults");
         adapter.Fill(dSetExam,"ExamResults");
         dbgResults.DataSource = dSetExam.Tables[0];
      }
```

7. **Write code for the function** `populateComboBox()` **as given below**

```
      private void populateComboBox()
      {
         this.cboStudentCode.Items.Clear();
         sqlstr="select StudentCode from Student";
         commnd=new SqlCommand(sqlstr,conn);
         if ((reader!= null) && (!reader.IsClosed))
            reader.Close();
         reader=commnd.ExecuteReader ();
         if (reader.HasRows)
         {
            while (reader.Read())
```

```
    this.cboStudentCode.Items.Add(reader.GetValue(0).ToString ());
        }
    }
```

8. Build and execute the application.