

# MAINFORMDESIGNER.cs

```

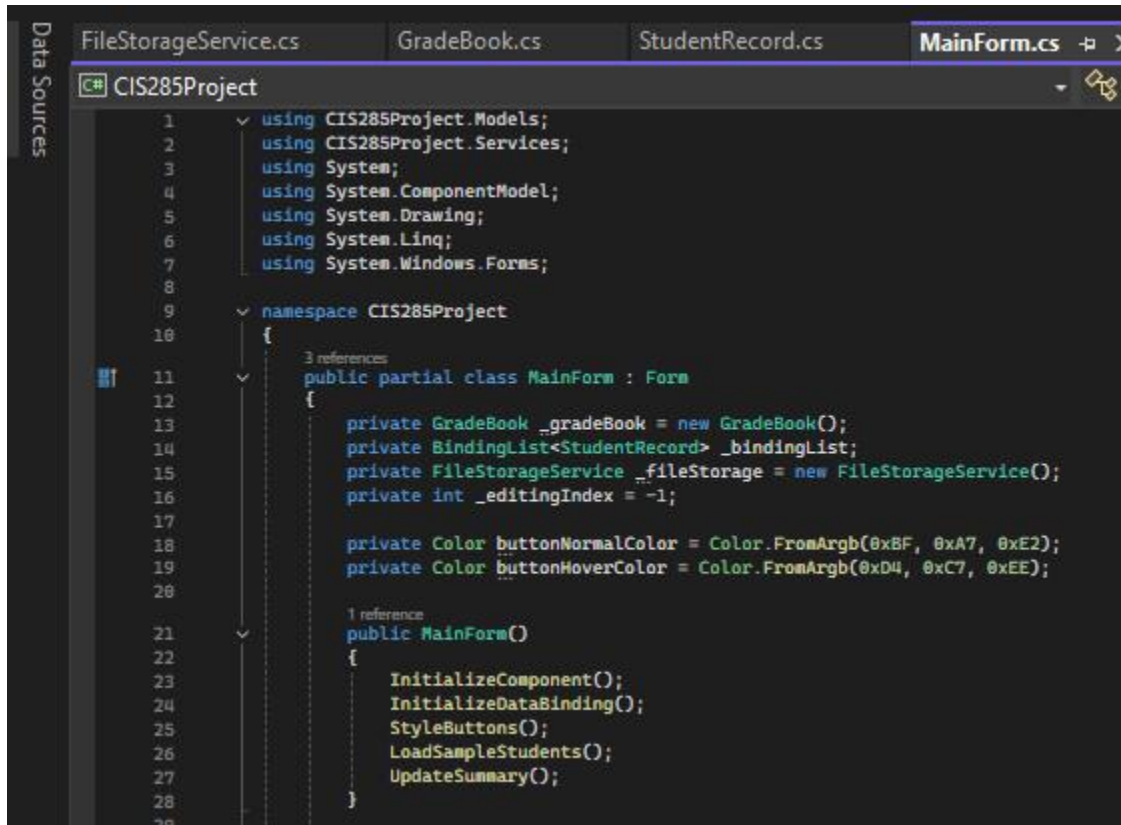
FileStorageService.cs  GradeBook.cs  StudentRecord.cs  MainForm.cs  MainForm.Designer.cs
CIS285Project
CIS285Project.MainForm

74
75 // DATAGRIDVIEW
76 this.dgvStudents.Location = new System.Drawing.Point(25, 25);
77 this.dgvStudents.Size = new System.Drawing.Size(800, 350);
78 this.dgvStudents.ReadOnly = true;
79 this.dgvStudents.RowHeadersVisible = false;
80 this.dgvStudents.SelectionMode = System.Windows.Forms.DataGridViewSelectionMode.FullRowSelect;
81 this.dgvStudents.AllowUserToAddRows = false;
82 this.dgvStudents.AllowUserToDeleteRows = false;
83 this.dgvStudents.MultiSelect = false;
84 this.dgvStudents.ScrollBars = System.Windows.Forms.ScrollBars.Both;
85 this.dgvStudents.EnableHeadersVisualStyles = false;
86 this.dgvStudents.ColumnHeadersDefaultCellStyle.BackColor =
87 System.Drawing.Color.FromArgb(0x8F, 0xA7, 0xE2);
88 this.dgvStudents.ColumnHeadersDefaultCellStyle.ForeColor =
89 System.Drawing.Color.White;
90 this.dgvStudents.BackgroundColor = System.Drawing.Color.White;
91
92 this.dgvStudents.Columns.AddRange(new System.Windows.Forms.DataGridViewColumn[] {
93     this.colName, this.colG1, this.colG2, this.colG3, this.colG4,
94     this.colG5, this.colG6, this.colG7, this.colG8, this.colAvg
95 });
96
97 this.dgvStudents.SelectionChanged += new System.EventHandler(this.dgvStudents_SelectionChanged);
98
99 // Column bindings
100 this.colName.DataPropertyName = "Name";
101 this.colG1.DataPropertyName = "Grade1";
102 this.colG2.DataPropertyName = "Grade2";
103 this.colG3.DataPropertyName = "Grade3";
104 this.colG4.DataPropertyName = "Grade4";
105 this.colG5.DataPropertyName = "Grade5";
106 this.colG6.DataPropertyName = "Grade6";
107 this.colG7.DataPropertyName = "Grade7";
108 this.colG8.DataPropertyName = "Grade8";
109 this.colAvg.DataPropertyName = "Average";
110
111 // Column headers
112 this.colName.HeaderText = "Student Name";
113 this.colName.Width = 140;
114
115 this.colG1.HeaderText = "Grade 1"; this.colG1.Width = 60;
116 this.colG2.HeaderText = "Grade 2"; this.colG2.Width = 60;
117 this.colG3.HeaderText = "Grade 3"; this.colG3.Width = 60;
118 this.colG4.HeaderText = "Grade 4"; this.colG4.Width = 60;
119 this.colG5.HeaderText = "Grade 5"; this.colG5.Width = 60;
120 this.colG6.HeaderText = "Grade 6"; this.colG6.Width = 60;
121 this.colG7.HeaderText = "Grade 7"; this.colG7.Width = 60;
122 this.colG8.HeaderText = "Grade 8"; this.colG8.Width = 60;
123
124 this.colAvg.HeaderText = "Average";
125 this.colAvg.Width = 80;
126
127 // BUTTONS
128 this.btnAdd.Location = new System.Drawing.Point(850, 25);
129 this.btnAdd.Size = new System.Drawing.Size(220, 40);
130 this.btnAdd.Text = "Add Student";
131 this.btnAdd.Click += new System.EventHandler(this.btnAdd_Click);
132 this.btnAdd.MouseEnter += new System.EventHandler(this.Button_MouseEnter);
133 this.btnAdd.MouseLeave += new System.EventHandler(this.Button_MouseLeave);
134
135 this.btnEdit.Location = new System.Drawing.Point(850, 75);
136 this.btnEdit.Size = new System.Drawing.Size(220, 40);
137 this.btnEdit.Text = "Edit Student";
138 this.btnEdit.Click += new System.EventHandler(this.btnEdit_Click);
139 this.btnEdit.MouseEnter += new System.EventHandler(this.Button_MouseEnter);
140 this.btnEdit.MouseLeave += new System.EventHandler(this.Button_MouseLeave);
141
142 this.btnDelete.Location = new System.Drawing.Point(850, 125);
143 this.btnDelete.Size = new System.Drawing.Size(220, 40);
144 this.btnDelete.Text = "Delete Student";
145 this.btnDelete.Click += new System.EventHandler(this.btnDelete_Click);
146 this.btnDelete.MouseEnter += new System.EventHandler(this.Button_MouseEnter);

```

70 % No issues found

## MAINFORM.cs (MULTIPLE SCREENSHOTS)



```
FileStorageService.cs  GradeBook.cs  StudentRecord.cs  MainForm.cs
C# CIS285Project
1  using CIS285Project.Models;
2  using CIS285Project.Services;
3  using System;
4  using System.ComponentModel;
5  using System.Drawing;
6  using System.Linq;
7  using System.Windows.Forms;
8
9  namespace CIS285Project
10 {
11     3 references
12     public partial class MainForm : Form
13     {
14         private GradeBook _gradeBook = new GradeBook();
15         private BindingList<StudentRecord> _bindingList;
16         private FileStorageService _fileStorage = new FileStorageService();
17         private int _editingIndex = -1;
18
19         private Color buttonNormalColor = Color.FromArgb(0xBF, 0xA7, 0xE2);
20         private Color buttonHoverColor = Color.FromArgb(0xD4, 0xC7, 0xEE);
21
22         1 reference
23         public MainForm()
24         {
25             InitializeComponent();
26             InitializeDataBinding();
27             StyleButtons();
28             LoadSampleStudents();
29             UpdateSummary();
30     }
```

FileStorageService.csGradeBook.csStudentRecord.csMainForm.cs

CIS285Project

```
62
63
64 // Live validation for grade textboxes
65 // references
66 private void GradeTextBox_TextChanged(object sender, EventArgs e)
67 {
68     if (sender is TextBox tb)
69     {
70         if (string.IsNullOrEmpty(tb.Text))
71         {
72             tb.BackColor = Color.White;
73             return;
74         }
75         if (double.TryParse(tb.Text, out double value) && value >= 0 && value <= 100)
76             tb.BackColor = Color.White;
77         else
78             tb.BackColor = Color.MistyRose;
79     }
80 }
81
82 // -----
83 // LOAD 15 SAMPLE STUDENTS (8 GRADES)
84 // -----
85 private void LoadSampleStudents()
86 {
87     _gradeBook.Students.Clear();
88     _gradeBook.AddStudent(new StudentRecord
89     {
90         Name = "Jake Arrieta",
91         Grade1 = 85,
92         Grade2 = 92,
93         Grade3 = 88,
94         Grade4 = 91,
95         Grade5 = 89,
96         Grade6 = 94,
97         Grade7 = 90,
98         Grade8 = 93
99     });
100
101     _gradeBook.AddStudent(new StudentRecord
102     {
103         Name = "Anthony Rizzo",
104         Grade1 = 78,
105         Grade2 = 82,
106         Grade3 = 80,
107         Grade4 = 75,
108         Grade5 = 79,
109         Grade6 = 81,
110         Grade7 = 77,
111         Grade8 = 83
112     });
113 }
```

FileStorageService.csGradeBook.csStudentRecord.csMainForm.csMainForm.Designer.cs

CIS285ProjectCIS285Project.MainForm

```
334         Grade5 = 71,
335         Grade6 = 81,
336         Grade7 = 87,
337         Grade8 = 100,
338
339     });
340
341     _bindingList = new BindingList<StudentRecord>(_gradeBook.Students);
342     dgvStudents.DataSource = _bindingList;
343
344     lblStatus.Text = "Loaded 19 active students.";
345 }
346
347 // -----
348 // SUMMARY UPDATE
349 // -----
350 5 references
351 private void UpdateSummary()
352 {
353     int count = _gradeBook.Students.Count;
354     lblTotalStudents.Text = $"Total Students: {count}";
355     lblSummaryClassAvg.Text = $"Class Avg: {_gradeBook.CalculateClassAverage():F2}";
356
357     if (count > 0)
358     {
359         lblHighestAvg.Text = $"Highest Avg: {_gradeBook.Students.Max(s => s.Average):F2}";
360         lblLowestAvg.Text = $"Lowest Avg: {_gradeBook.Students.Min(s => s.Average):F2}";
361         lblPassingCount.Text = $"Passing (>=70): {_gradeBook.Students.Count(s => s.Average >= 70)}";
362     }
363     else
364     {
365         lblHighestAvg.Text = "Highest Avg: N/A";
366         lblLowestAvg.Text = "Lowest Avg: N/A";
367         lblPassingCount.Text = "Passing: 0";
368     }
369 }
370 // -----
371 // BUTTON CLICK EVENTS
372 // -----
373
374 1 reference
375 private void btnAdd_Click(object sender, EventArgs e)
376 {
377     ClearInputs();
378     _editingIndex = -1;
379     lblStatus.Text = "Adding new student...";
380 }
```

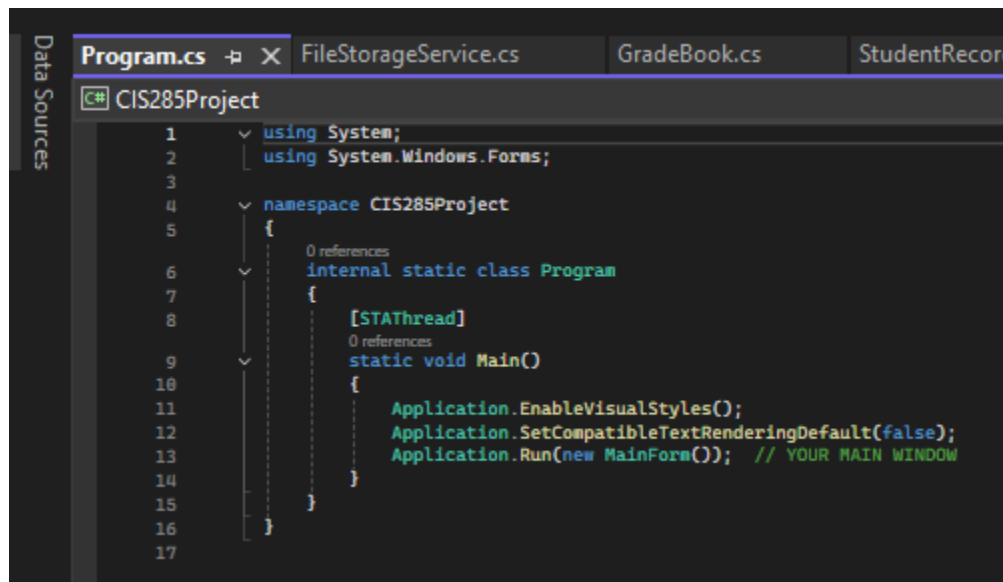
FileStorageService.csGradeBook.csStudentRecord.csMainForm.csMainForm.cs

CIS285ProjectCIS285P

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```
    }  
  
    1 reference  
    private void btnAverage_Click(object sender, EventArgs e)  
    {  
        lblClassAverage.Text = _gradeBook.CalculateClassAverage().ToString("F2");  
        lblStatus.Text = "Class average updated.";  
        UpdateSummary();  
    }  
  
    1 reference  
    private void btnSaveFile_Click(object sender, EventArgs e)  
    {  
        SaveFileDialog dialog = new SaveFileDialog();  
        dialog.Filter = "XML Files|*.xml";  
  
        if (dialog.ShowDialog() == DialogResult.OK)  
        {  
            _fileStorage.Save(dialog.FileName, _gradeBook.Students);  
            lblStatus.Text = "File saved.";  
        }  
    }  
  
    1 reference  
    private void btnSaveNotes_Click(object sender, EventArgs e)  
    {  
        if (dgvStudents.CurrentRow == null)  
        {  
            MessageBox.Show("Select a student first.");  
            return;  
        }  
  
        int index = dgvStudents.CurrentRow.Index;  
        _gradeBook.Students[index].Notes = txtNotes.Text;  
  
        lblStatus.Text = "Notes saved.";  
    }  
  
    1 reference  
    private void btnLoadFile_Click(object sender, EventArgs e)  
    {  
        OpenFileDialog dialog = new OpenFileDialog();  
        dialog.Filter = "XML Files|*.xml";  
  
        if (dialog.ShowDialog() == DialogResult.OK)  
        {  
            var list = _fileStorage.Load(dialog.FileName);  
  
            _gradeBook.Students.Clear();  
            _gradeBook.Students.AddRange(list);  
  
            _bindingList = new BindingList<StudentRecord>(_gradeBook.Students);  
            dgvStudents.DataSource = _bindingList;  
  
            UpdateSummary();  
            lblStatus.Text = "File loaded.";  
        }  
    }  
}
```

## PROGRAM.cs



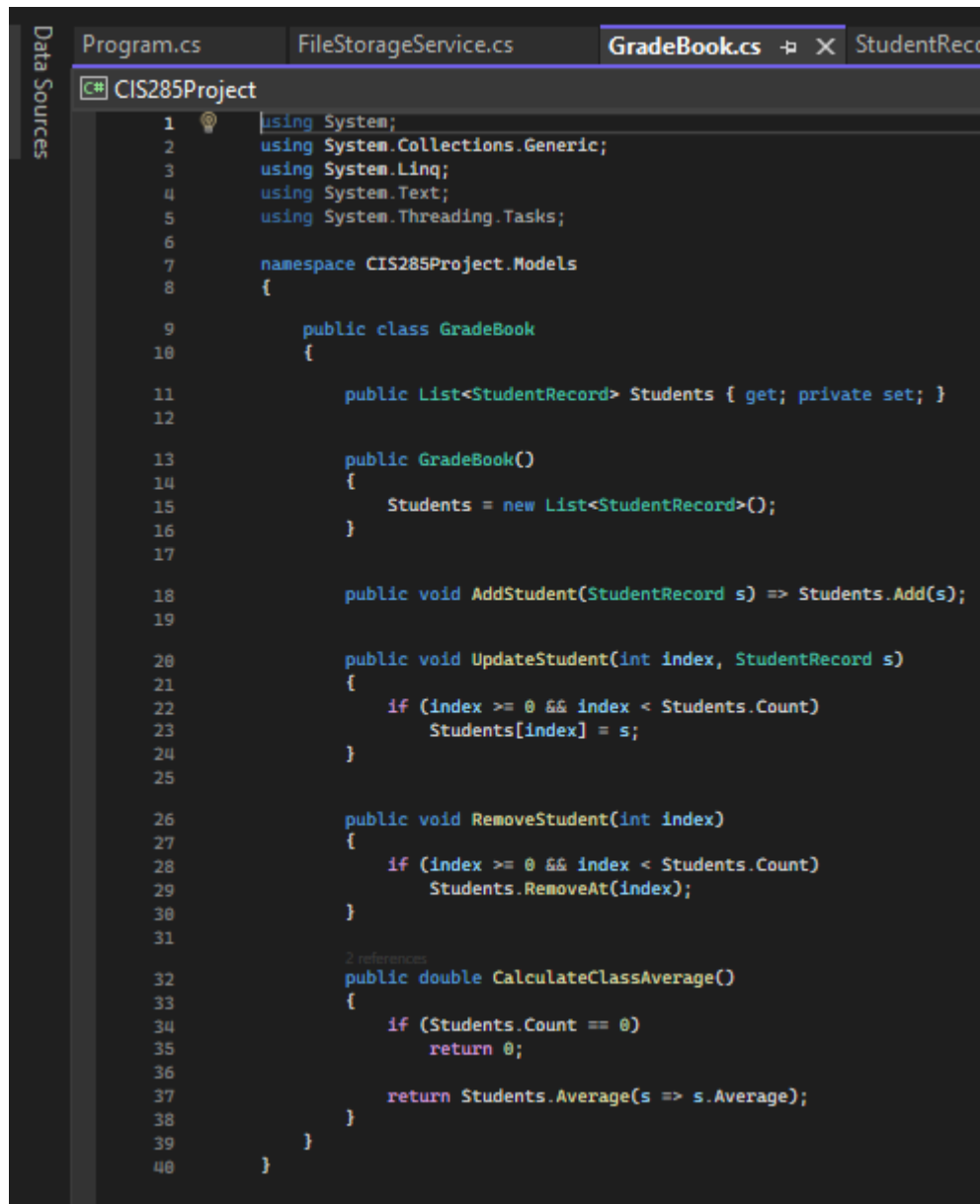
```
1  using System;
2  using System.Windows.Forms;
3
4  namespace CIS285Project
5  {
6      internal static class Program
7      {
8          [STAThread]
9          static void Main()
10         {
11             Application.EnableVisualStyles();
12             Application.SetCompatibleTextRenderingDefault(false);
13             Application.Run(new MainForm()); // YOUR MAIN WINDOW
14         }
15     }
16
17 }
```

## FILESTORAGESERVICE.cs

```
Program.cs  FileStorageService.cs  GradeBook.cs  StudentRecord.cs
CIS285Project

10 namespace CIS285Project.Services
11 {
12     2 references
13     public class FileStorageService
14     {
15         1 reference
16         public void Save(string filePath, List<StudentRecord> students)
17         {
18             var doc = new XDocument(
19                 new XElement("Students",
20                     students.Select(s =>
21                         new XElement("Student",
22                             new XAttribute("Name", s.Name ?? ""),
23                             new XAttribute("Grade1", s.Grade1?.ToString() ?? ""),
24                             new XAttribute("Grade2", s.Grade2?.ToString() ?? ""),
25                             new XAttribute("Grade3", s.Grade3?.ToString() ?? ""),
26                             new XAttribute("Grade4", s.Grade4?.ToString() ?? ""),
27                             new XAttribute("Grade5", s.Grade5?.ToString() ?? ""),
28                             new XAttribute("Grade6", s.Grade6?.ToString() ?? ""),
29                             new XAttribute("Grade7", s.Grade7?.ToString() ?? ""),
30                             new XAttribute("Grade8", s.Grade8?.ToString() ?? ""),
31                             new XElement("Notes", s.Notes ?? "")
32                         )
33                     )
34                 );
35             doc.Save(filePath);
36         }
37     }
38     1 reference
39     public List<StudentRecord> Load(string filePath)
40     {
41         var result = new List<StudentRecord>();
42         if (!File.Exists(filePath))
43             return result;
44         var doc = XDocument.Load(filePath);
45         foreach (var elem in doc.Root.Elements("Student"))
46         {
47             var s = new StudentRecord
48             {
49                 Name = (string)elem.Attribute("Name")
50             };
51             s.Grade1 = ParseNullableDouble((string)elem.Attribute("Grade1"));
52             s.Grade2 = ParseNullableDouble((string)elem.Attribute("Grade2"));
53             s.Grade3 = ParseNullableDouble((string)elem.Attribute("Grade3"));
54             s.Grade4 = ParseNullableDouble((string)elem.Attribute("Grade4"));
55             s.Grade5 = ParseNullableDouble((string)elem.Attribute("Grade5"));
56             s.Grade6 = ParseNullableDouble((string)elem.Attribute("Grade6"));
57             s.Grade7 = ParseNullableDouble((string)elem.Attribute("Grade7"));
58             s.Grade8 = ParseNullableDouble((string)elem.Attribute("Grade8"));
59             s.Notes = (string)elem.Element("Notes") ?? "";
60             result.Add(s);
61         }
62         return result;
63     }
64     8 references
65     private double? ParseNullableDouble(string value)
66     {
67         if (double.TryParse(value, out double d))
68             return d;
69         return null;
70     }
71 }
72
73
74
75
76
77
78
```

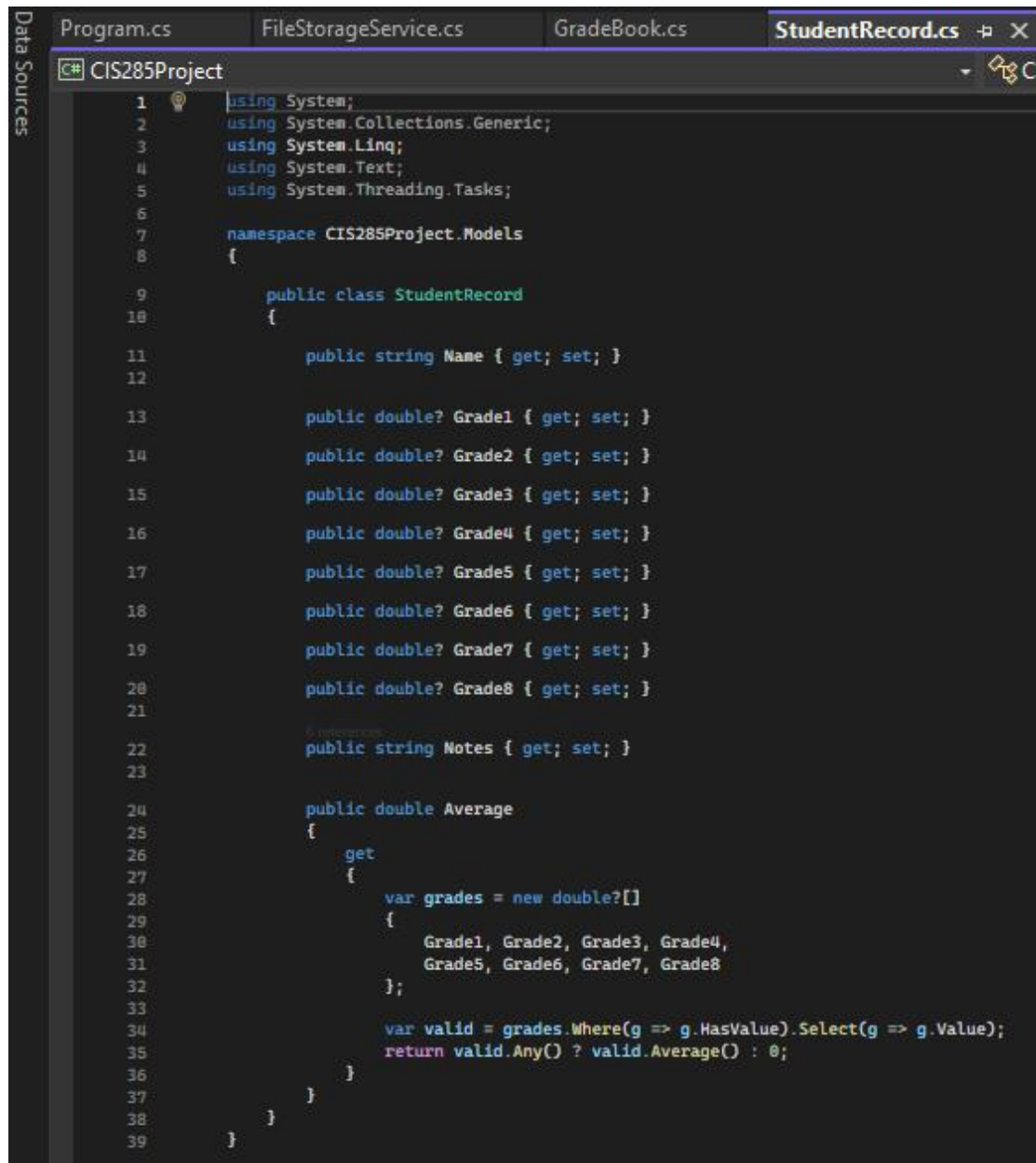
## GRADEBOOK.cs



```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace CIS285Project.Models
8  {
9      public class GradeBook
10     {
11         public List<StudentRecord> Students { get; private set; }
12
13         public GradeBook()
14         {
15             Students = new List<StudentRecord>();
16         }
17
18         public void AddStudent(StudentRecord s) => Students.Add(s);
19
20         public void UpdateStudent(int index, StudentRecord s)
21         {
22             if (index >= 0 && index < Students.Count)
23                 Students[index] = s;
24         }
25
26         public void RemoveStudent(int index)
27         {
28             if (index >= 0 && index < Students.Count)
29                 Students.RemoveAt(index);
30         }
31
32         2 references
33         public double CalculateClassAverage()
34         {
35             if (Students.Count == 0)
36                 return 0;
37
38             return Students.Average(s => s.Average);
39         }
40     }
```



## STUDENTRECORD.cs



```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace CIS285Project.Models
8  {
9      public class StudentRecord
10     {
11         public string Name { get; set; }
12
13         public double? Grade1 { get; set; }
14         public double? Grade2 { get; set; }
15         public double? Grade3 { get; set; }
16         public double? Grade4 { get; set; }
17         public double? Grade5 { get; set; }
18         public double? Grade6 { get; set; }
19         public double? Grade7 { get; set; }
20         public double? Grade8 { get; set; }
21
22         public string Notes { get; set; }
23
24         public double Average
25         {
26             get
27             {
28                 var grades = new double?[]
29                 {
30                     Grade1, Grade2, Grade3, Grade4,
31                     Grade5, Grade6, Grade7, Grade8
32                 };
33
34                 var valid = grades.Where(g => g.HasValue).Select(g => g.Value);
35                 return valid.Any() ? valid.Average() : 0;
36             }
37         }
38     }
39 }
```

#### Source Code Reference:

This project was developed by our group and was not adapted from any external repository or tutorial project.