Introduction to Programming

August 7, 2022 12:59 PM

Float sayi alimi

August 7, 2022 1:03 PM

```
static float sumTax = 0.0F; //The amount of the total taxes
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TaxCalculator/Program.cs>

```
if(float.TryParse(ReadLine(), outincome) &&income>0)
                {
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TaxCalculator/Program.cs>

Out kullanimi

August 7, 2022 1:03 PM

getCustomerType**(out customerType)**; //It changes the customerType variable

From <https://github.com/neslihanaydin/Algorithms/blob/main/PublisherDiscountCalculator/Program-2.cs>

```
public static void getCustomerType(out char customerType)
    {
      customerType = 'b';
      int checkCycle = 1;
      while(checkCycle == 1)
      {
        WriteLine("Please input your customer type.\nBook stores (B or b)\nLibrary (L or l) :");

        if (char.TryParse(ReadLine(), out customerType))
        {
          if (customerType == 'B' || customerType == 'b' || customerType == 'L' || customerType == 'l')
            checkCycle = 0;
        }
      }

    }
```

getValues**(out numberOfCopies, out unitPrice)**;

From <https://github.com/neslihanaydin/Algorithms/blob/main/PublisherDiscountCalculator/Program-2.cs>

```
public static void getValues(out int numberOfCopies, out double unitPrice)
    {
      numberOfCopies = 0;
      unitPrice = 0;
      int checkCycle = 1; // check value for true inputs
      while (checkCycle == 1)
      {
        WriteLine("Please input the number of copies :");
        if (int.TryParse(ReadLine(), out numberOfCopies))
        {
          checkCycle = 0;
        }

      }
      checkCycle = 1;
      while (checkCycle == 1)
      {
        WriteLine("Please input the unit price :");

        if (double.TryParse(ReadLine(), out unitPrice))
        {
          checkCycle = 0;
        }
      }

    }
```

Dictionary - Telephone Book

August 7, 2022 1:03 PM

```
Dictionary<string, int> telephoneBook=newDictionary<string, int>();
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Check and Add Record

```
if(telephoneBook.ContainsKey(name))
        {
          WriteLine("The record is already exists.");
        }
        else
        {
          WriteLine("Enter the tel number:");
          telNumber=int.Parse(ReadLine());
          telephoneBook.Add(name, telNumber);
          WriteLine("One record added");

        }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Delete Record

```
if(telephoneBook.ContainsKey(name))
        {
          telephoneBook.Remove(name);
          WriteLine("One record deleted");

        }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Display Record

```
if(telephoneBook.ContainsKey(name))
        {
          WriteLine("The telephone number is "+telephoneBook[name]);

        }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

ViewAll Records with foreach

```
Static void viewAll(Dictionary<string, int> telephoneBook)
    {
      //Sort and List

      if(telephoneBook.Count==0) //if the telephoneBook dictinary size is 0 that means no record yet.
      {
        WriteLine("No record yet.");
      }
      else
      {
        foreach(KeyValuePair<string, int> person in telephoneBook.OrderBy(key=>key.Key))
        {
          WriteLine("Name  :"+person.Key);
          WriteLine("Tel no :"+person.Value);

        }

      }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Edit Record

```
if(telephoneBook.ContainsKey(name))
        {
          WriteLine("Enter the new telephone number:");
          telNumber=int.Parse(ReadLine());
          telephoneBook[name] =telNumber;
          WriteLine("One record added");

        }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Dogru type int girildi kontrolu

August 7, 2022 1:03 PM

```
while(int.TryParse(ReadLine(), out input) ==false) //Make sure that true type entered
        {
           WriteLine("Please enter true type of number.");

        }
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/TelephoneBook/Program.cs>

Multidimensional Array

August 7, 2022 1:03 PM

```
int[] ar1Dimension=new int[25];

int[,] arr1=new int[5, 5];
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/MultidimensionalArrayWithRandomElements/Program-2.cs>

Check element in Array

```
public static bool checkElementInArray(int[,] tempArray, int value)
      {
         for (int i = 0; i < tempArray.GetLength(0); i++)
         {
            for (int j = 0; j < tempArray.GetLength(1); j++)
            {
               if (tempArray[i, j] == value)
               {
                  return true;
               }
            }
         }

         return false;
      }
```

Random number

```
 Random r = new Random();
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/MultidimensionalArrayWithRandomElements/Program2.cs>

```
temp = r.Next(0, 25); //random number 0 to 25 for index
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/MultidimensionalArrayWithRandomElements/Program2.cs>

International and Domestic Student

August 7, 2022 1:03 PM

Student Class

```
public class Student
  {
    private double totalCourses;
    public string stdNumber { get; set; }
    public string stdName { get; set; }
    public int courses { get; set; }
    public string stdType { get; set; }

    public Student(string stdNumber, string stdName, int courses, string stdType)
    {
      this.stdNumber = stdNumber;
      this.stdName = stdName;
      this.courses = courses;
      this.stdType = stdType;
    }

    public virtual double compute() //its virtual because it can be overrieded
    {

      return totalCourses = courses * 3;
    }

  }
```

International Class

```
public class International : Student
  {
    int adminFee = 0;
    double tuitionFee = 0;
    public International(string stdNumber, string stdName, int courses, string stdType) : base(stdNumber, stdName, courses, stdType)
    {
      this.adminFee = 3000;

    }
    public override double compute()
    {
      return tuitionFee = (base.compute() * 150) + adminFee;
    }
  }
```

Domestic Class

```
public class Domestic : Student
  {

     int adminFee = 0;
    double tuitionFee = 0;
    public Domestic(string stdNumber, string stdName, int courses, string stdType) : base( stdNumber,  stdName,  courses,  stdType)
    {
      this.adminFee = 1000;
    }

    public override double compute()
    {
      return tuitionFee = (base.compute() * 100) + adminFee;
    }
  }
```

Listview Initializes

August 7, 2022 1:03 PM

```
public Form1()
    {
        InitializeComponent();
        //ListView configurations // I added this part because I dont wanna do this on the form. It could be problem later
        listView1.View = View.Details;
        listView1.GridLines = true;

        listView1.Columns.Add("Number", 100);
        listView1.Columns.Add("Name", 100);
        listView1.Columns.Add("Courses", 100);
        listView1.Columns.Add("Student Type", 100);

    }



private void listView1_SelectedIndexChanged(object sender, EventArgs e)
    {
        var x = listView1.SelectedIndices;
        for(int i=0; i<x.Count; i++)
        {
            textBox1.Text = listView1.Items[x[i]].SubItems[0].Text;
            oldValue = listView1.Items[x[i]].SubItems[0].Text;
            textBox2.Text = listView1.Items[x[i]].SubItems[1].Text;
            textBox3.Text = listView1.Items[x[i]].SubItems[2].Text;
            comboBox1.Text = listView1.Items[x[i]].SubItems[3].Text;

        }

        double tui = 0;
        if(comboBox1.SelectedIndex == 0)
        {
            International obj1 = new International(textBox1.Text, textBox2.Text, int.Parse(textBox3.Text),
comboBox1.SelectedItem.ToString());
            tui = obj1.compute();
        }
        if(comboBox1.SelectedIndex == 1)
        {
            Domestic obj1 = new Domestic(textBox1.Text, textBox2.Text, int.Parse(textBox3.Text),
comboBox1.SelectedItem.ToString());
            tui = obj1.compute();

        }
        double dis;
        //check if there is discount
        if (discount.ContainsKey(textBox1.Text))
        {
            dis  = discount[textBox1.Text];
        }

        //blab lbabalb
    }
```

Combobox

August 7, 2022 1:03 PM

```
 if(comboBox1.SelectedIndex == 0)
        {
            International obj1 = new International(textBox1.Text, textBox2.Text,
int.Parse(textBox3.Text), comboBox1.SelectedItem.ToString());
            tui = obj1.compute();
        }
 if(comboBox1.SelectedIndex == 1)
        {
            Domestic obj1 = new Domestic(textBox1.Text, textBox2.Text, int.Parse(textBox3.Text),
comboBox1.SelectedItem.ToString());
            tui = obj1.compute();
```

Create a new form

August 7, 2022 9:07 PM

Form1

```
private void buttonDiscount_Click(object sender, EventArgs e)
    {
      this.Hide();

      Form2 f = new Form2();
      f.display(this);
      f.ShowDialog();

      this.Close();
    }
```

Form2

```
public void display(Form1 obj)
    {

      textBoxStdNm.Text = obj.textBoxStdNm.Text;
      textBoxStdNam.Text = obj.textBoxStdNam.Text;
    }
```

Form1 Designer

```
.
.
.
    private System.Windows.Forms.Label label1;
    private System.Windows.Forms.Label label2;
    private System.Windows.Forms.Label label3;
    private System.Windows.Forms.Label label4;
    public System.Windows.Forms.TextBox textBoxStdNm;
    public System.Windows.Forms.TextBox textBoxStdNam;
    private System.Windows.Forms.TextBox textBoxNumCrs;
    private System.Windows.Forms.TextBox textBoxStdTyp;
```

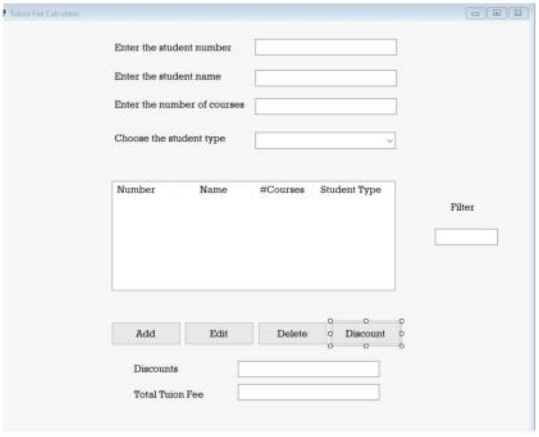
Printout

August 10, 2022 7:30 PM

CSIS 1175

PRACTICE TEST

INTERFACES


Enter the student number
Enter the student name
Enter the number of courses
Choose the student type
Number
Name
#Courses
Student Type
Filter
Add
Edit
Delete
Discount
Discounts
Total Tuion Fee

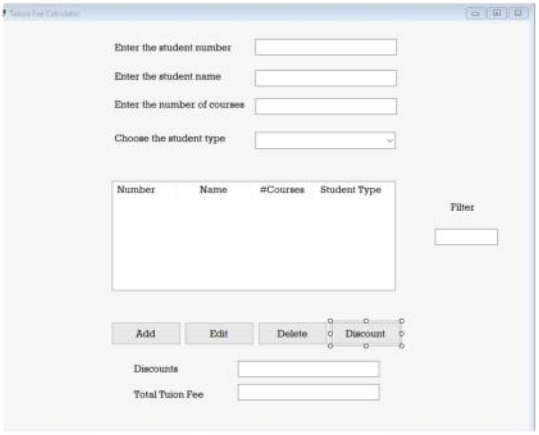

Enter the student number
Enter the student name
Enter the discount percent
Number
Name
Discount
Add
Edit
Delete
Back to Main

CODING SPECIFICATIONS

- Create a Student class with the following data fields:
  - Studnumber, stuname, courses, studtype
  - Courses refers to the number of courses the student is taking
  - A constructor that initializes the above data fields
  - Setters and getters for each data field
  - A method that computes that total units which is courses times 3
- Create an international student class that will inherit from the student class. It will have the following specifications:
  - Admin for admin fee and tuition for tuition fee
  - A constructor that will satisfy the parent's constructor parameters and initialize the admin fee to 3000
  - A method that computes the tuition fee. Tuition fee is based on total units * 150 + admin fee.
- Create a domestic student class that will inherit from the student class. It will have the same specifications as the international student except that the per unit is 100 and the admin fee is 1000.

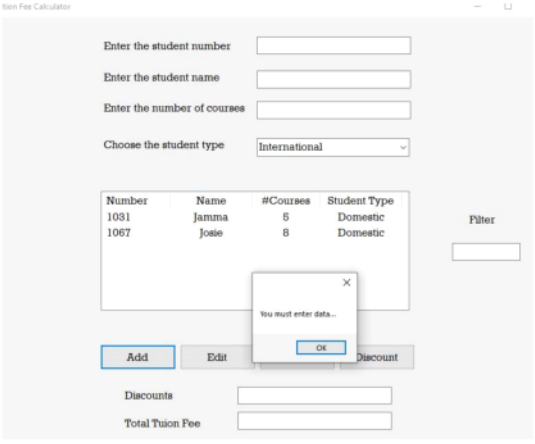
```
var selectedStudent = listView1.SelectedIndices;
      for(int i = 0; i < selectedStudent.Count; i++)
      {
        textBoxStdNm.Text = listView1.Items[selectedStudent[i]].SubItems[0].Text;
      }
```

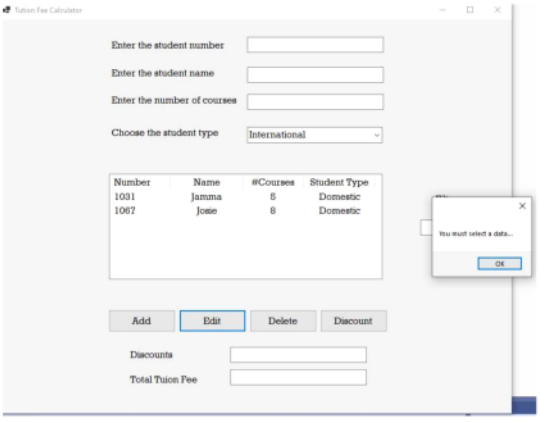
FORM SPECS



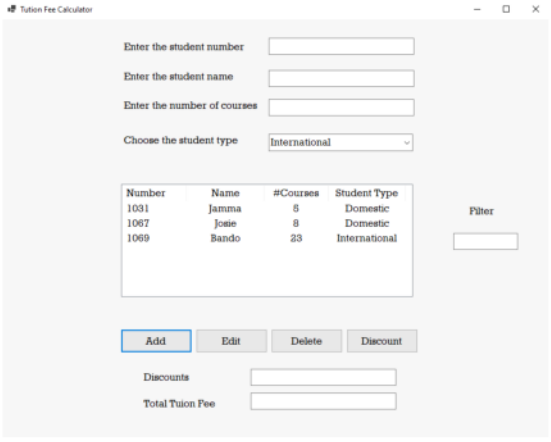
- This form will ask the user to input the student number, name, courses and student type.
- By clicking add the data will be saved in the table.
- By clicking the table, the data will be transferred to the text boxes for editing.
- Users can click a row in the table to delete the data.
- Discount and total tuition fee are read only.
- Filter allow users to search a record using a student number.
- Provide the necessary validations.
- By clicking discount, the discount form will be called.

SOME VALIDATIONS

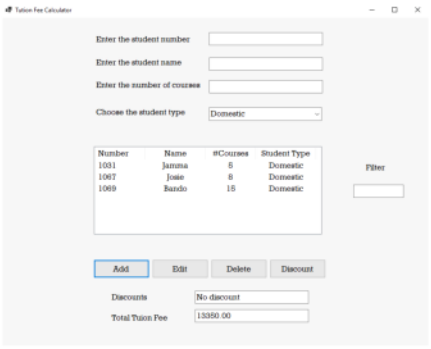


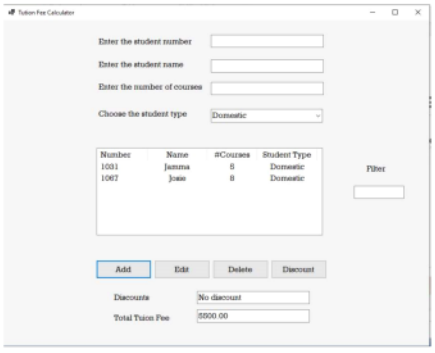


ADDING RECORD

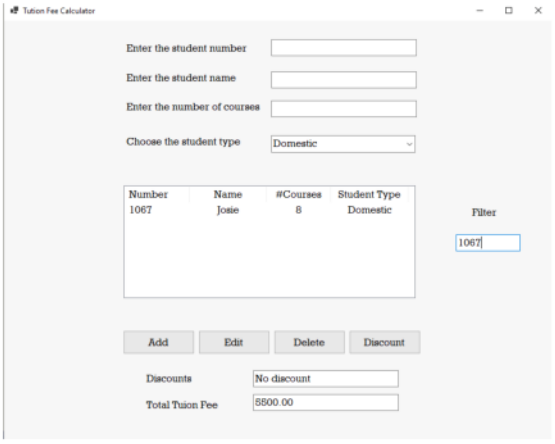


DELETING AND EDITING

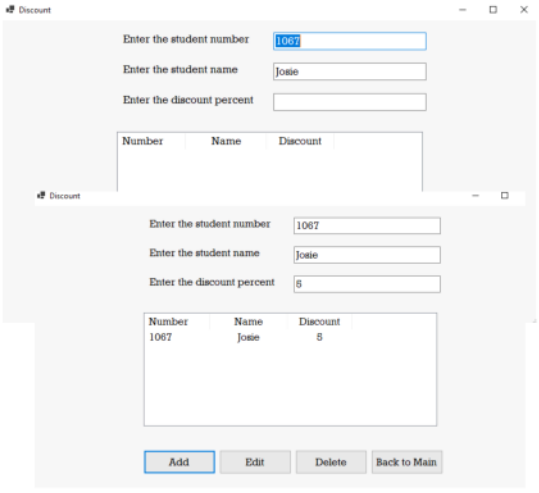




SEARCHING


Tution Fee Calculator
Enter the student number
Enter the student name
Enter the number of courses
Choose the student type
Domestic
Number
Name
#Courses
Student Type
1067
Josie
8
Domestic
Filter
1067
Add
Edit
Delete
Discount
Discounts
No discount
Total Tuion Fee
5500.00

DISCOUNT



- When the discount button is clicked, a new form is called.
- Provide the necessary validations
- Only one discount is allowed per student. → dictionary
- Discounts can be deleted and edited.
- When back to main is clicked, the program will go back to the main form

File Processing - Write

August 12, 2022 2:27 PM

WRITE DATA TO FILE

```
public void saveData()
    {
        string data;
        var path = @"Student.txt";

        //open the file

        FileStream fs = new FileStream(path, FileMode.OpenOrCreate);
        StreamWriter sw = new StreamWriter(fs);

        for(int i = 0; i < studentList.Count; i++)
        {
            data = studentList[i].studNumber + " " +
                studentList[i].studName + " " +
                studentList[i].courses + " " +
                studentList[i].studType + "\n";

            sw.Write(data);
        }

        sw.Flush();
        sw.Close();
    }
```

```
/*
 * Creating and opening a file

Var path = @"file.txt";
  FileStream fs = new FileStream(path, FileMode.OpenOrCreate);

1) Append: It opens the file if it exists and places the cursor at the end of the file or
creates a new file
2) Create: It creates a new file
3) CreateNew: It specifies to an operating system that a new file should be created
4) Open: It opens an existing file
5) OpenOrCreate: It specifies to the system that open a file I it exists, else create a new
file
6) Truncate: It opens an existing file. When opened, the file should be truncated, the
size of the file is zero bytes.
*/
```

From <https://github.com/neslihanaydin/Algorithms/blob/main/PracticeTestWindowsProgramming/Form1.cs >

File processing - Read Data

August 12, 2022 2:42 PM

```
public void loadData()
    {
        string[] students;
        string[] discounts;
        string data;

        listView1.Items.Clear();
        studentList.Clear();
        discountDict.Clear();

        var pathStudent = @"Student.txt";
        var pathDiscount = @"Discount.txt";
        var pathStudentwError = @"StudentFileError.txt"; //If the previous Student.txt file is broken, this file will be using for backup that student file

        if (File.Exists("Student.txt"))
        {
            //transfer the file from the text file to the program
            var sr = new StreamReader(pathStudent);

            try
            {
                while (sr.Peek() >= 0)
                {
                    data = sr.ReadLine();
                    students = data.Split(' ');
                    var studentObj = new Student(students[0], students[1], int.Parse(students[2]), students[3]);
                    studentList.Add(studentObj);

                    //add the new data to the listview
                    listView1.Items.Add(new ListViewItem(new String[] { students[0].ToString(), students[1].ToString(), students[2].ToString(), students[3].ToString() }));

                }
                sr.Close();

            }catch(Exception e)
            {
                MessageBox.Show("Error when reading file. The list will be empty. The Backup file has created. Main file will be deleted.");
                if(File.Exists(pathStudentwError)) File.Delete(pathStudentwError);
                backupStudentFileWithError();
                sr.Close();
                File.Delete(pathStudent);
            }

        }

        if (File.Exists("Discount.txt"))
        {
```

```
        var sr = new StreamReader(pathDiscount);
        try
        {
            while(sr.Peek() >= 0)
            {
                data = sr.ReadLine();
                discounts = data.Split(' ');
                discountDict.Add(discounts[0].ToString(), double.Parse(discounts[1].ToString()));
            }
            sr.Close();
        }catch(Exception e1)
        {
            Console.WriteLine("Load Discount File --> " + e1.Message);
            sr.Close();
        }
    }

}
```

Cool prints

August 12, 2022 2:45 PM

Part 2

When the user finally enters N. Display the following:

```
Thank you for playing
*Thank you for playing
**Thank you for playing
***Thank you for playing
****Thank you for playing
*****Thank you for playing
******Thank you for playing
*****Thank you for playing
****Thank you for playing
***Thank you for playing
**Thank you for playing
*Thank you for playing
```

Note: You have to use a For Loop

```
public static void showThanksForPlaying()
    {
      string star = "";
      for(int i=0; i<12; i++)
      {

        WriteLine(star + "Thank you for playing");
        if(i < 6)
        {
          star = star + "*";
        } else
        {
          star = star.Remove(star.Length-1);
        }

      }
    }
```

Format Exception when take inputs to a class

August 12, 2022 2:55 PM

```
try
        {
            Student st = new Student(textBoxStdNm.Text.ToString(), textBoxStdNam.Text.ToString(),
int.Parse(textBoxNumCrs.Text), comboBoxStdTyp.SelectedItem.ToString());
            studentList.Add(st);
            saveData();
        }
        catch(System.FormatException e1)
        {
            Console.WriteLine(e1.Message);
            MessageBox.Show("You must enter correct type of data");
            textBoxNumCrs.Text = "";
            return;
        }
```