

All code available at:

https://github.com/RebelShadow/Capata-Andrei-Bogdan_30332_II

LAB1

1. 2.

```
Choose an option:
0. Terminate
1. Fibonacci
2. Calculator
3. C/F converter
4. Ideal Weight Calculator
5. Means
1
Enter the value of n:
10
0, 1, 1, 2, 3, 5, 8, 13, 21, 34,

Choose an option:
0. Terminate
1. Fibonacci
2. Calculator
3. C/F converter
4. Ideal Weight Calculator
5. Means
2
First number:
1
Operation (+,-,/,*)
+
Second number
2
1+2=
3|
```

1 reference

```
static void Fibonacci()
{
    int n = 0, a = 0, b = 1;
    Console.WriteLine("Enter the value of n:");
    n = int.Parse(Console.ReadLine());

    for (int i = 0; i < n; i++)
    {
        Console.Write(a + ", ");
        int temp = a;
        a = b;
        b += temp;
    }
    Console.Read ();
}
```

1 reference

```
static void Calculator()
{
    string choice = "+";
    int a = 0;
    int b = 0;
    Console.WriteLine("First number:");
    a = int.Parse(Console.ReadLine());
    Console.WriteLine("Operation (+,-,/,*)");
    choice = Console.ReadLine();
    Console.WriteLine("Second number");
    b = int.Parse(Console.ReadLine());

    Console.WriteLine(a + choice + b + "= ");
    switch (choice)
    {
        case "+": Console.Write(a + b); break;
        case "-": Console.Write(a - b); break;
        case "/": Console.Write(a / b); break;
        case "*": Console.Write(a * b); break;

        default: Console.Write("NOT DEFINED"); break;
    }
    Console.Read();
}
```

3. 4.

Choose an option:

- 0. Terminate
- 1. Fibonacci
- 2. Calculator
- 3. C/F converter
- 4. Ideal Weight Calculator
- 5. Means

3

Choose an option:

- 1. Fahrenheit to Celsius
- 2. Celsius to Fahrenheit

1

Enter temperature in Fahrenheit: 120

120°F is approximately 48,888888888889°C

Choose an option:

- 0. Terminate
- 1. Fibonacci
- 2. Calculator
- 3. C/F converter
- 4. Ideal Weight Calculator
- 5. Means

4

Enter height (in cm): 168

Enter age (in years): 20

Enter gender (f for female or m for male): f

Ideal weight for women: 63,5kg

|

```

class TemperatureConverter
{
    1 reference
    private static double FahrenheitToCelsius(double fahrenheit)
    {
        return (fahrenheit - 32) * 5 / 9;
    }

    1 reference
    private static double CelsiusToFahrenheit(double celsius)
    {
        return (celsius * 9 / 5) + 32;
    }

    1 reference
    public static void Conversion()
    {
        Console.WriteLine("Choose an option:");
        Console.WriteLine("1. Fahrenheit to Celsius");
        Console.WriteLine("2. Celsius to Fahrenheit");

        int choice = 0;

        choice = int.Parse(Console.ReadLine());

        double inputValue;
        string inputUnit, outputUnit;

        switch (choice)
        {
            case 1:
                Console.WriteLine("Enter temperature in Fahrenheit: ");
                inputValue = double.Parse(Console.ReadLine());
                Console.WriteLine(inputValue.ToString() + "°F is approximately " + FahrenheitToCelsius(inputValue) + "°C");
                break;

            case 2:
                Console.WriteLine("Enter temperature in Celsius: ");
                inputValue = double.Parse(Console.ReadLine());
                Console.WriteLine(inputValue.ToString() + "°C is approximately " + CelsiusToFahrenheit(inputValue) + "°F");
                break;

            default:
                Console.WriteLine("Invalid choice. Please select 1 or 2.");
                break;
        }
        Console.Read();
    }
}

```

```

switch (choice)
{
    case 1:
        Console.WriteLine("Enter temperature in Fahrenheit: ");
        inputValue = double.Parse(Console.ReadLine());
        Console.WriteLine(inputValue.ToString() + "°F is approximately " + FahrenheitToCelsius(inputValue) + "°C");
        break;

    case 2:
        Console.WriteLine("Enter temperature in Celsius: ");
        inputValue = double.Parse(Console.ReadLine());
        Console.WriteLine(inputValue.ToString() + "°C is approximately " + CelsiusToFahrenheit(inputValue) + "°F");
        break;

    default:
        Console.WriteLine("Invalid choice. Please select 1 or 2.");
        break;
}
Console.Read();
}

```

```

1 reference
class IdealWeightCalculator
{
    1 reference
    private static double CalculateIdealWeightForMen(double heightCm, int ageYears)
    {
        return (heightCm - 100 - ((heightCm - 150) / 4)) + ((ageYears - 20) / 4);
    }

    1 reference
    private static double CalculateIdealWeightForWomen(double heightCm, int ageYears)
    {
        return (heightCm - 100 - ((heightCm - 150) / 2.5)) + ((ageYears - 20) / 6);
    }

    2 references
    private static void DisplayIdealWeight(double idealWeightForMen, double idealWeightForWomen, string gender)
    {
        if (gender == "m")
            Console.WriteLine("Ideal weight for men: " + idealWeightForMen + "kg");
        if (gender == "f")
            Console.WriteLine("Ideal weight for women: " + idealWeightForWomen + "kg");
    }
}

```

```

1 reference
public static void Calculate()
{
    Console.Write("Enter height (in cm): ");
    double heightCm = double.Parse(Console.ReadLine());

    Console.Write("Enter age (in years): ");
    int ageYears = int.Parse(Console.ReadLine());

    Console.Write("Enter gender (f for female or m for male): ");
    string gender = Console.ReadLine();

    double idealWeightForMen = CalculateIdealWeightForMen(heightCm, ageYears);
    double idealWeightForWomen = CalculateIdealWeightForWomen(heightCm, ageYears);

    switch (gender)
    {
        case "m":
            DisplayIdealWeight(idealWeightForMen, idealWeightForWomen, "m");
            break;

        case "f":
            DisplayIdealWeight(idealWeightForWomen, idealWeightForMen, "f");
            break;

        default:
            Console.WriteLine("Invalid gender. Please use f for female or m for male.");
            break;
    }

    Console.Read();
}

```

5.

```
C:\facultate\an 3\sem 2\II\LAI × + v
Choose an option:
0. Terminate
1. Fibonacci
2. Calculator
3. C/F converter
4. Ideal Weight Calculator
5. Means
5
Enter the number of elements in the array: 3
Enter element 1: 1
Enter element 2: 2
Enter element 3: 3
Geometric mean: 1
Arithmetic mean: 2
```

```
1 reference
static void Mean()
{
    Console.WriteLine("Enter the number of elements in the array: ");
    int n = int.Parse(Console.ReadLine());

    int[] numbers = new int[n];
    double product = 1;
    double sum = 0;

    for (int i = 0; i < n; i++)
    {
        Console.WriteLine($"Enter element {i + 1}: ");
        numbers[i] = int.Parse(Console.ReadLine());

        product *= numbers[i];

        sum += numbers[i];
    }

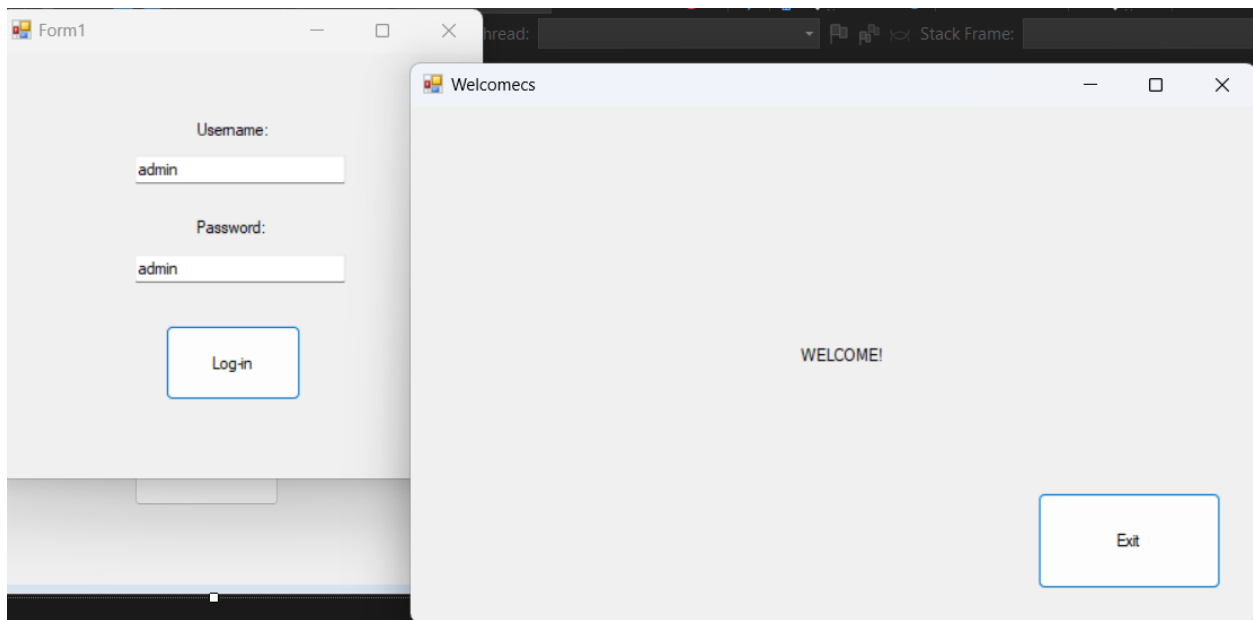
    double geometricMean = Math.Pow(product, 1 / n);

    double arithmeticMean = sum / n;

    Console.WriteLine("Geometric mean: " + geometricMean);
    Console.WriteLine("Arithmetic mean: " + arithmeticMean);
    Console.Read();
}
```

LAB2

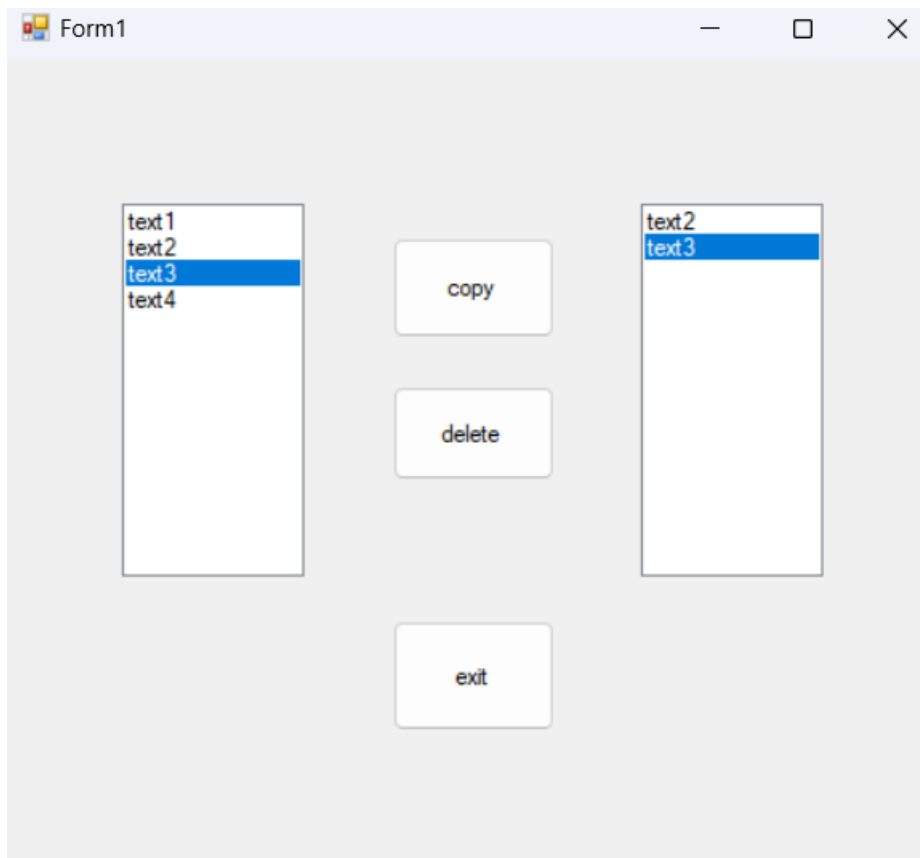
1.



```
1 reference
private void LogInButton_Click(object sender, EventArgs e)
{
    String User = UserBox.Text;
    String Password = PasswordBox.Text;

    StreamReader sr = new StreamReader(path: "C:/facultate/an 3/sem 2/II/LAB/lab2/ex1/lab2_1/lab2_1/users.txt");
    if(User == sr.ReadLine() && Password == sr.ReadLine())
    {
        Welcomecs welcome = new Welcomecs();
        welcome.Show();
    }
    else
    {
        MessageBox.Show("Invalid Username or Password");
    }
}
```

2.



```
3 references
public partial class Form1 : Form
{
    1 reference
    public Form1()
    {
        InitializeComponent();

        string path = "C:/facultate/an 3/sem 2/II/LAB/lab2/ex2/lab2_ex2/list.txt";
        if (File.Exists(path))
        {
            using (StreamReader sr = new StreamReader(path))
            {
                string content = sr.ReadToEnd();
                string[] lines = content.Split(';');
                foreach (string line in lines)
                {
                    if (!string.IsNullOrEmpty(line))
                    {
                        listBox1.Items.Add(line.Trim());
                    }
                }
            }
        }
        else
        {
            MessageBox.Show("File not found: " + path);
        }
    }
}
```



```

1 reference
private void button3_Click(object sender, EventArgs e)
{
    Close();
}

1 reference
private void button1_Click(object sender, EventArgs e)
{
    if (listBox1.SelectedItem != null)
    {
        string selectedItem = listBox1.SelectedItem.ToString();
        listBox2.Items.Add(selectedItem);
    }
    else
    {
        MessageBox.Show("No item selected in listBox1.");
    }
}

1 reference
private void button2_Click(object sender, EventArgs e)
{
    if(listBox2.SelectedItem != null)
    {
        listBox2.Items.Remove(listBox2.SelectedItem);
    }
    else
    {
        MessageBox.Show("No item selected in listBox2.");
    }
}

```

3.

The screenshot shows a Windows application window titled "Form1". Inside the window, there is a simple calculator interface. At the top, there are two text input fields. The first field contains the number "3" and the second field contains the number "4". Below these fields is a horizontal row of four buttons, each containing a mathematical operator: "+", "-", "*", and "/". At the bottom of the interface, there is a third text input field that displays the result "0,75".

```

1 reference
private void toolStripMenuItem3_Click(object sender, EventArgs e)
{
    textBox3.Text = Convert.ToString(double.Parse(textBox1.Text) * double.Parse(textBox2.Text));
}

1 reference
private void toolStripMenuItem1_Click(object sender, EventArgs e)
{
    textBox3.Text=Convert.ToString(double.Parse(textBox1.Text)+double.Parse(textBox2.Text));
}

```

4.

Form1


tabPage1 tabPage2

☒ BMW

☐ Audi

☐ Mercedes-Benz

☐ Lancia



1 reference

```
private void radioButton1_CheckedChanged(object sender, EventArgs e)
{
    string imagePath = "C:/facultate/an 3/sem 2/II/LAB/lab2/ex4/lab2_ex4/lab2
    if (File.Exists(imagePath))
    {
        panel1.BackgroundImage = Image.FromFile(imagePath);
    }
    else
    {
        MessageBox.Show("Image not found: " + imagePath);
    }
}
```

Form1

tabPage1 tabPage2

☒ Bistrița ☒ Năsăud

☐ Târgu ☐ Mureș

☐ Alba ☐ Iulia

Bistrița Năsăud

1 reference

```
private void Bistrita_CheckedChanged(object sender, EventArgs e)
{
    if (Bistrita.Checked)
    {
        textBox1.Text = Bistrita.Text+ " " + textBox1.Text ;
    }
    if (Bistrita.Checked == false)
    {
        textBox1.Text = textBox1.Text.Replace("Bistrița", "").Trim();
    }
}
```

1 reference

```
private void Targu_CheckedChanged(object sender, EventArgs e)
{
    if (Targu.Checked)
    {
        textBox1.Text = Targu.Text + " " + textBox1.Text;
    }
}
```