



HUMAN COMPUTER INTERACTION

“LAB 04”



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VI-A

“LAB TASKS”

TASK 1

Design and develop a user interface to calculate the semester GPA of a student.

PROGRAM:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
namespace HCI_LAB_4_1
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }
        double sm1, sm2, sm3, sm4, sm5, sm6, sm7;
        double ch1, ch2, ch3, ch4, ch5, ch6, ch7;
        double g1, g2, g3, g4, g5, g6, g7;
        double res;
        string grade = "";
        double gpa;
        void GPA(double marks)
        {
            if (marks > 85)
            {
                gpa = 4.0;
                grade = "A";
            }
            else if (marks > 80 && marks < 85)
            {
                gpa = 3.7;
                grade = "A-";
            }
            else if (marks > 75 && marks < 79)
```

```

{
gpa = 3.3;
grade = "B+";
}
else if (marks >= 70 && marks <= 74)
{
gpa = 3.0;
grade = "B";

}
else if (marks >= 65 && marks <= 69)
{
gpa = 2.7;
grade = "B-";
}
else if (marks >= 61 && marks <= 64)
{
gpa = 2.3;
grade = "C+";
}
else if (marks >= 58 && marks <= 60)
{
gpa = 2.0;
grade = "C";
}
else if (marks >= 55 && marks <= 57)
{
gpa = 1.7;
grade = "C-";
}
else if (marks >= 50 && marks <= 54)
{
gpa = 1;
grade = "D";
}
else if (marks < 50)
{
gpa = 0.0;
grade = "F";
}}
private void textBox5_TextChanged(object sender, EventArgs e)
{
ch1 = double.Parse(textBox5.Text);
}

```

```
private void textBox9_TextChanged(object sender, EventArgs e)
{
    ch2 = double.Parse(textBox9.Text);
}
private void textBox13_TextChanged(object sender, EventArgs e)
{
    ch3 = double.Parse(textBox13.Text);
}
private void textBox17_TextChanged(object sender, EventArgs e)
{
    ch4 = double.Parse(textBox17.Text);
}
private void textBox21_TextChanged(object sender, EventArgs e)
{
    ch5 = double.Parse(textBox21.Text);
}
```

```
private void textBox25_TextChanged(object sender, EventArgs e)
{
    ch6 = double.Parse(textBox25.Text);
}
private void textBox29_TextChanged(object sender, EventArgs e)
{
    ch7 = double.Parse(textBox29.Text);
}
private void textBox2_TextChanged(object sender, EventArgs e)
{
    sm1 = double.Parse(textBox2.Text);
}
private void textBox6_TextChanged(object sender, EventArgs e)
{
    sm2 = double.Parse(textBox6.Text);
}
private void textBox10_TextChanged(object sender, EventArgs e)
{
    sm3 = double.Parse(textBox10.Text);
}
private void textBox14_TextChanged(object sender, EventArgs e)
{
    sm4 = double.Parse(textBox14.Text);
}
private void textBox18_TextChanged(object sender, EventArgs e)
{
    sm5 = double.Parse(textBox18.Text);
}
```

```

}
private void textBox22_TextChanged(object sender, EventArgs e)
{
    sm6 = double.Parse(textBox22.Text);
}
private void textBox26_TextChanged(object sender, EventArgs e)
{
    sm7 = double.Parse(textBox26.Text);
}
private void button1_Click(object sender, EventArgs e)
{
    GPA(sm1);
    g1 = gpa;
    textBox3.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm2);
    g2 = gpa;
    textBox7.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm3);
    g3 = gpa;

    textBox11.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm4);
    g4 = gpa;
    textBox15.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm5);
    g5 = gpa;
    textBox19.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm6);
    g6 = gpa;
    textBox23.Text = gpa.ToString() + ",\n" + grade;
    GPA(sm7);
    g7 = gpa;
    textBox27.Text = gpa.ToString() + ",\n" + grade;
    res = ((g1 * ch1) + (g2 * ch2) + (g3 * ch3) + (g4 * ch4) + (g5 * ch5) + (g6 *
    ch6) + (g7 * ch7)) / (ch1 + ch2 + ch3 + ch4 + ch5 + ch6 + ch7);
    textBox28.Text = res.ToString();
    }}}

```

OUTPUT:

TANZEELA FORM

SEMESTER

GPA

RESULT

Subject 1 Name	HCI LAB	Credit Hours	1	Subject 1 Marks	89	GPA Grade	
Subject 2 Name	HCI	Credit Hours	2	Subject 2 Marks	83	GPA Grade	
Subject 3 Name	WEB	Credit Hours	3	Subject 1 Marks	79	GPA Grade	
Subject 4 Name	SQE	Credit Hours	3	Subject 1 Marks	85	GPA Grade	
Subject 5 Name	SPM	Credit Hours	2	Subject 1 Marks	75	GPA Grade	
Subject 6 Name	OOP LAB	Credit Hours	1	Subject 1 Marks	80	GPA Grade	
Subject 7 Name	OOP	Credit Hours	3	Subject 1 Marks	7.3	GPA Grade	

SEMESTER GPA

CALCULATE

TANZEELA FORM

SEMESTER

GPA

RESULT

Subject 1 Name	HCI LAB	Credit Hours	1	Subject 1 Marks	89	GPA Grade	4,A
Subject 2 Name	HCI	Credit Hours	2	Subject 2 Marks	83	GPA Grade	3.7,A-
Subject 3 Name	WEB	Credit Hours	3	Subject 1 Marks	79	GPA Grade	3.7,A-
Subject 4 Name	SQE	Credit Hours	3	Subject 1 Marks	85	GPA Grade	3.7,A-
Subject 5 Name	SPM	Credit Hours	2	Subject 1 Marks	75	GPA Grade	3.7,A-
Subject 6 Name	OOP LAB	Credit Hours	1	Subject 1 Marks	80	GPA Grade	3.7,A-
Subject 7 Name	OOP	Credit Hours	3	Subject 1 Marks	7.3	GPA Grade	3,B

SEMESTER GPA

3.58

CALCULATE

TASK 2

Make your application (Task #01) Password protected. Value of the password can be set in the code. To access the application user needs to enter the password. Give user maximum 3 attempts to enter the correct password. If user does not enter correct password in 3 attempts, application should not open and message should be displayed accordingly. Also create a hint button, having some hint for the password. Use case sensitive criteria for password.

PROGRAM:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
namespace HCI_LAB_4_1
{
    public partial class Form2 : Form
    {
        string password = "032";
        int count = 0;
        public Form2()
        {
            InitializeComponent();
        }
        private void button1_Click(object sender, EventArgs e)
        {
            if (count < 3)
            {
                if (textBox1.Text == password)
                {
                    Form1 f1 = new Form1();
                    new Form1().Show();
                    this.Hide();
                }
                else if (textBox1.Text != password)
                {
                    if (count < 3)
                    {
                        MessageBox.Show("Incorrect password, Try Again " + "Your " +
                            (count) + "attempts left!");
                        count++;
                    }
                }
            }
        }
    }
}
```

```

    }
    if (count == 3)
    {
        System.Windows.Forms.Application.Exit();
    }
    private void button2_Click(object sender, EventArgs e)
    {
        MessageBox.Show("Registration Number!!");
    }
}

```

OUTPUT:

