Department of Statistics & Computer Science
University of Kelaniya

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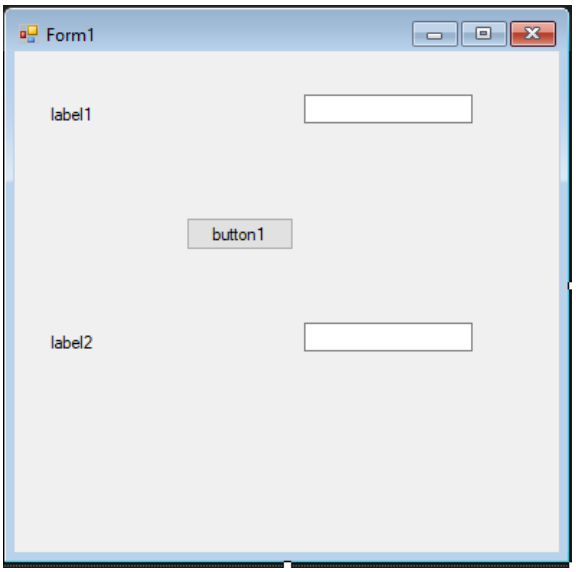
COSC 31112/ BECS 31242
Visual Programming

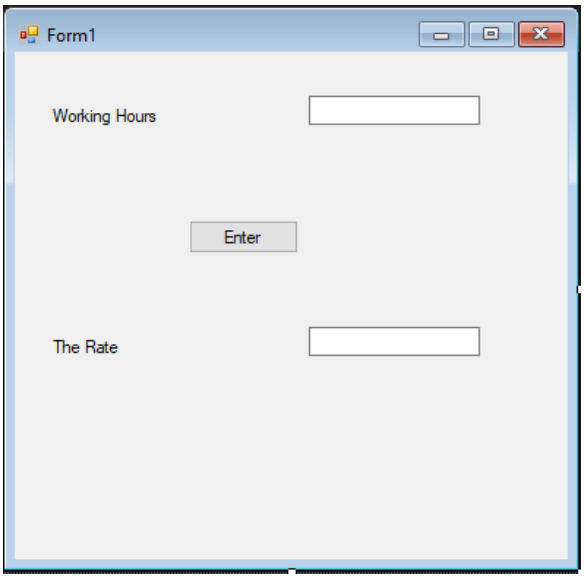
Practical Guide 02

1. The Salary of the Employee is to be calculated by the following procedure. If working hours is less than or equal to 40, the rate is 100 LKR per hour and if working hours is greater than 40, then the rate is 150 LKR per hour. Create a windows form using **If Else** statements which takes the working hours as the input and with a button click the relevant rate should be displayed in a Text box.

   (i) Create a form with two Labels, two Text boxes and a button as following.



   (ii) Change the text of the labels as ‘Working Hours’ and ‘The Rate’, names of text boxes as ‘hours’ and ‘rate’ and the text of the button as ‘Enter’.

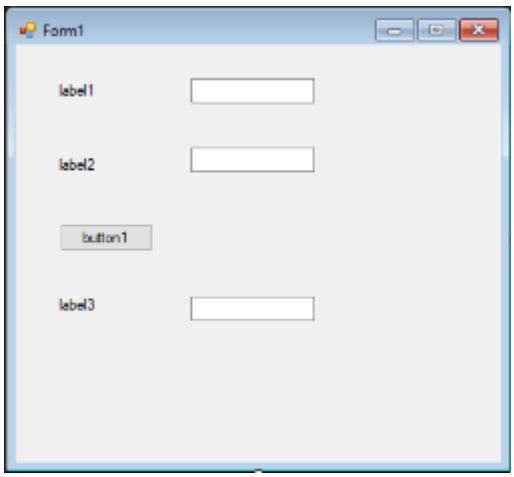


(iii) Double click on the button and give the below given code.

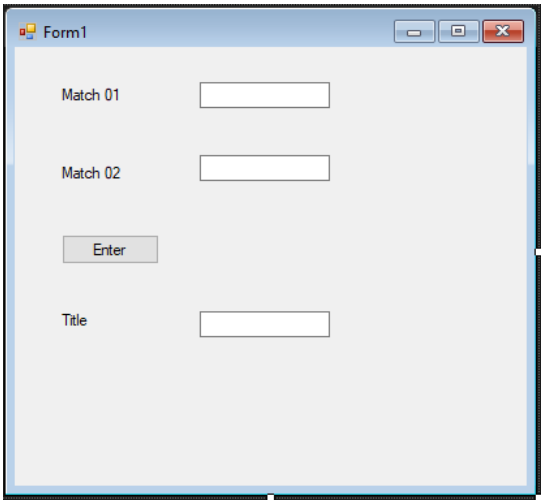
```
private void button1_Click(object sender, EventArgs e)
        {
            if (float.Parse(hours.Text) <= 40)
            {
                rate.Text = "100 LKR per hour";
            }
            else
            {
                rate.Text = "150 LKR per hour";
            }
        }
```

2. A Player has to play two matches. If he wins only one match; he will be titled as an 'Attacker'. If he wins both matches he will be titled as a 'Champion'. Else he will be given the title 'Sportsman'. Create a Windows form using **Nested If** statements which takes the facts; whether the player wins the two matches (As two separate inputs) and outputs the title of the Player in a Text box.

(i) Create a windows form with three labels and a one button.



(ii) Change the text of the three labels as 'Match 01','Match 02' and 'Title' and the text of the button as 'Enter'.

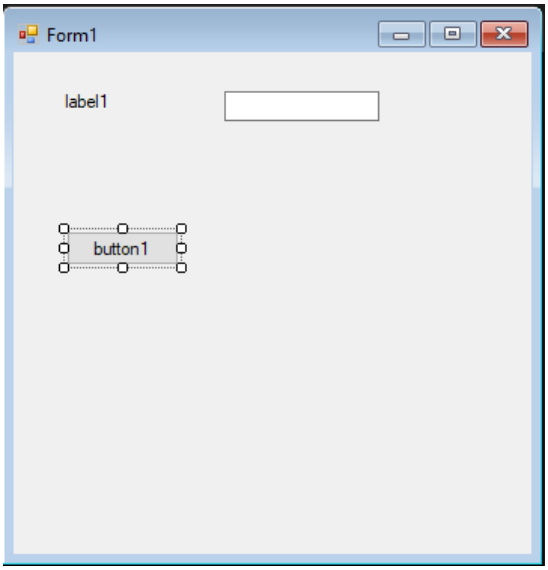


(iii) Below given is the code including **Nested If** which should be given for the button click.

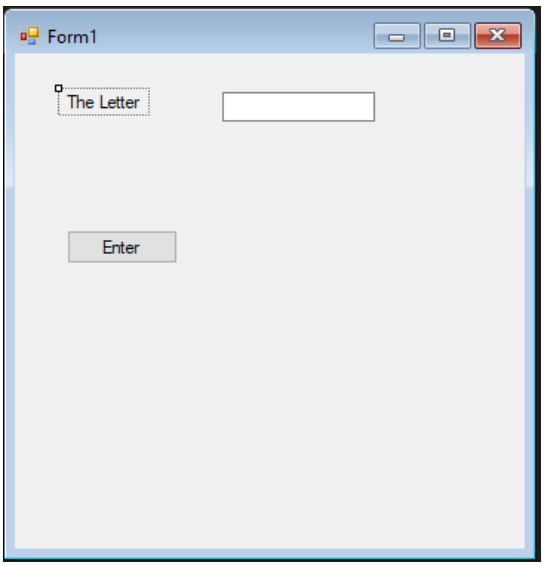
```
private void button1_Click(object sender, EventArgs e)
        {
            if (match1.Text == "win")
            {
                if (match2.Text == "win")
                {
                    title.Text = "Champion";
                }
                else
                {
                    title.Text = "Attacker";
                }
            }
            else
            {
                if (match2.Text == "win")
                {
                    title.Text = "Attacker";
                }
                else
                {
                    title.Text = "Sportsman";
                }
            }
                        }
```

3. Create a windows form using **Switch** statements which takes a letter as the input and shows the output with a message box saying whether the letter is a vowel or not.

(i) Create a windows form with a label, text box and a button.



(ii) Change the text of the label to ‘The Letter ‘and the text of the button to ‘Enter’.



(iii) Give the following code which includes the **Switch** for the button Click.

```
private void button1_Click(object sender, EventArgs e)
        {
            string letter = "";
            letter = lettertxt.Text;
            switch (letter)
            {
                case "A":
                case "a":
                    MessageBox.Show("The letter A is a Vowel");
                    break;
                case "E":
                case "e":
                    MessageBox.Show("The letter E is a Vowel");
                    break;
                case "I":
                case "i":
                    MessageBox.Show("The letter I is a Vowel");
                    break;
                case "O":
                case "o":
                    MessageBox.Show("The letter O is a Vowel");
                    break;
                case "U":
                case "u":
                    MessageBox.Show("The letter U is a Vowel");
                    break;
                default:
                    MessageBox.Show("The letter is not a Vowel");
                    break;

            }
        }
```

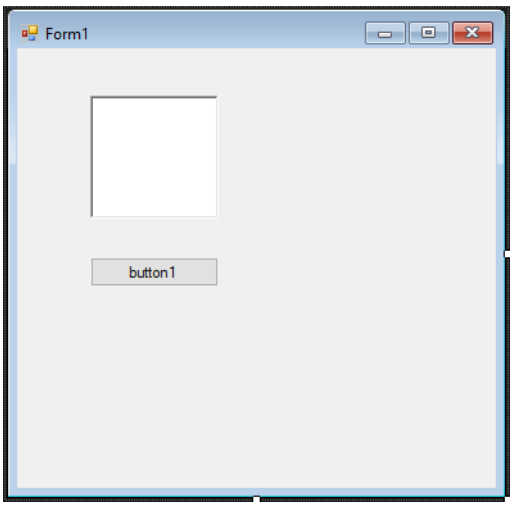
4. Repeat the Problem 02 using **Nested switch** in C#.

(i) Give the below given code for the button click.

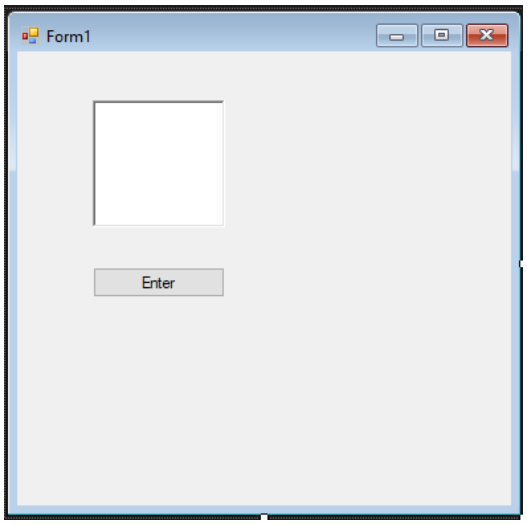
```
private void button1_Click(object sender, EventArgs e)
        {
            string  result1;
            string result2;
            result1 = match1.Text;
            result2 = match2.Text;
            switch (result1)
            {
                case "win":
                    switch (result2)
                    {
                        case "win":
                            title.Text = "Champion";
                            break;
                        case "lose":
                            title.Text = "Attacker";
                            break;
                    }
                    break;
                case "lose":
                    switch (result2)
                    {
                        case "win":
                            title.Text = "Attacker";
                            break;
                        case "lose":
                            title.Text = "Sportsman";
                            break;
                    }
                    break;
            }
              }
```

5. Print (0-9) digits in a rich text box using **while, For** and **do while** loops.

(i) Create a windows form with a Rich text box and a button.



(ii) Change the text of the button to ‘Enter’.



(iii) Try out the given codes with each and every loop for the Button Click as mentioned below.

With **While loop** -

```
private void button1_Click(object sender, EventArgs e)
        {
            int i = 0;
            while (i < 10){
                richTextBox1.Text = richTextBox1.Text + "\n" + i;
                i++;
            }

               }
```

With **for loop** -

```
private void button1_Click(object sender, EventArgs e)
        {
            int i;
            for (i=0; i< 10;  i++){
                richTextBox1.Text = richTextBox1.Text + "\n" + i;

            }

               }
```

With **do-while loop** -

```
private void button1_Click(object sender, EventArgs e)
        {
            int i = 0;
            do
            {
                richTextBox1.Text = richTextBox1.Text + "\n" + i;
                i++;
            }
            while (i < 10);
```

```
}
```

6. Change the above code (Code for problem 05) just to print up to 5 using **Break**.

```
private void button1_Click(object sender, EventArgs e)
        {
            int i = 0;
            do
            {
                richTextBox1.Text = richTextBox1.Text + "\n" + i;
                i++;
                if (i > 5)
                {
                    break;
                }
            }
            while (i < 10);
        }
```

7. Change the code for problem 05 just to print digits (0-9) excluding 5 using **continue**.

```
private void button1_Click(object sender, EventArgs e)
        {
            int i = 0;
            do
            {
                if (i == 5)
                {
                    i++;
                    continue;
                }
                richTextBox1.Text = richTextBox1.Text + "\n" + i;
                i++;

            }
            while (i < 10);
        }
```