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**FA20-bcs-013**

**LAB-TASKS**

**Calculator:**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

using static System.Windows.Forms.VisualStyles.VisualStyleElement.ProgressBar;

namespace Calculator

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

float num1, ans;

int count;

private void Form1\_Load(object sender, EventArgs e)

{

}

private void button1\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 1;

}

private void button2\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 2;

}

private void button3\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 3;

}

private void button4\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 4;

}

private void button5\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 5;

}

private void button6\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 6;

}

private void button7\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 7;

}

private void button8\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 8;

}

private void button9\_Click(object sender, EventArgs e)

{

textBox1.Text = textBox1.Text + 9;

}

private void button16\_Click(object sender, EventArgs e)

{

num1 = float.Parse(textBox1.Text);

textBox1.Clear();

textBox1.Focus();

count = 2;

}

private void button15\_Click(object sender, EventArgs e)

{

num1 = float.Parse(textBox1.Text);

textBox1.Clear();

textBox1.Focus();

count = 3;

}

private void button14\_Click(object sender, EventArgs e)

{

num1 = float.Parse(textBox1.Text);

textBox1.Clear();

textBox1.Focus();

count = 4;

}

private void button13\_Click(object sender, EventArgs e)

{

if (textBox1.Text != "")

{

num1 = float.Parse(textBox1.Text);

textBox1.Clear();

textBox1.Focus();

count = 1;

}

}

private void button12\_Click(object sender, EventArgs e)

{

compute(count);

}

public void compute(int count)

{

switch (count)

{

case 1:

ans = num1 - float.Parse(textBox1.Text);

textBox1.Text = ans.ToString();

break;

case 2:

ans = num1 + float.Parse(textBox1.Text);

textBox1.Text = ans.ToString();

break;

case 3:

ans = num1 \* float.Parse(textBox1.Text);

textBox1.Text = ans.ToString();

break;

case 4:

ans = num1 / float.Parse(textBox1.Text);

textBox1.Text = ans.ToString();

break;

default:

break;

}

}

private void button17\_Click(object sender, EventArgs e)

{

textBox1.Text = Convert.ToString(System.Math.Log10(Convert.ToDouble(textBox1.Text)));

}

private void button18\_Click(object sender, EventArgs e)

{

textBox1.Text = Convert.ToString(System.Math.Tan((Convert.ToDouble(System.Math.PI) / 180) \* (Convert.ToDouble(textBox1.Text))));

}

private void button19\_Click(object sender, EventArgs e)

{

textBox1.Text = Convert.ToString(System.Math.Sin((Convert.ToDouble(System.Math.PI) / 180) \* (Convert.ToDouble(textBox1.Text))));

}

private void button20\_Click(object sender, EventArgs e)

{

textBox1.Text = Convert.ToString(System.Math.Cos((Convert.ToDouble(System.Math.PI) / 180) \* (Convert.ToDouble(textBox1.Text))));

}

private void button10\_Click(object sender, EventArgs e)

{

int c = textBox1.TextLength;

int flag = 0;

string text = textBox1.Text;

for (int i = 0; i < c; i++)

{

if (text[i].ToString() == ".")

{

flag = 1; break;

}

else

{

flag = 0;

}

}

if (flag == 0)

{

textBox1.Text = textBox1.Text + ".";

}

}

}

}

**Lab 2:**

**Task 1:**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

using System.Text.RegularExpressions;

namespace labtask2

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void button1\_Click(object sender, EventArgs e)

{

// take input from a richtextbox/textbox

string var = richTextBox1.Text;

// split the input on the basis of space

string[] words = var.Split(' ');

// Regular Expression for relational operators

Regex regex1 = new Regex(@"^(==|!=|<|<=|>|>=)$");

for (int i = 0; i < words.Length; i++)

{

Match match1 = regex1.Match(words[i]);

if (match1.Success)

{

richTextBox2.Text += words[i] + " ";

}

else

{

MessageBox.Show("invalid " + words[i]);

}

}

}

}

}

**Task 2:**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

using System.Text.RegularExpressions;

namespace \_2activity2

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void button1\_Click(object sender, EventArgs e)

{

// take input from a richtextbox/textbox

string var = richTextBox1.Text;

// split the input on the basis of space

string[] words = var.Split(' ');

// Regular Expression for arithmetic operators

Regex regex1 = new Regex(@"^(\+|-|\\*|/|%)$");

for (int i = 0; i < words.Length; i++)

{

Match match1 = regex1.Match(words[i]);

if (match1.Success)

{

richTextBox2.Text += words[i] + " ";

}

else

{

MessageBox.Show("invalid " + words[i]);

}

}

}

}

}