МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РЕСПУБЛИКИ БЕЛАРУСЬ

БЕЛОРУССКИЙ НАЦИОНАЛЬНЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

Факультет информационных технологий и робототехники

Кафедра программного обеспечения информационных систем и технологий

**Отчет**

**по лабораторной работе № 2**

**«Создание калькулятора»**

по дисциплине: «Конструирование программного обеспечения»

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**Лабораторная работа №2**

**Создание калькулятора**

**Цель работы**

Ознакомиться с системами контроля версий для разработки программного обеспечения. Освоить способы организации работы в системах контроля версий. Получить навыки командной работы.

**Задание**

Составить программу «Какулятор». Пример работы можно увидеть в принципе в любом калькуляторе.

**Код программы:**

**Form1.cs**

using System;

using System.Windows.Forms;

namespace Лаб.\_раб\_2

{

public partial class Form1 : Form

{

private double currentValue = 0;

private string currentOperator = "";

private bool isNewNumber = true;

public Form1()

{

MaximizeBox = false;

InitializeComponent();

}

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

{

if (isNewNumber)

{

richTextBox1.Text = "";

isNewNumber = false;

}

Button button = (Button)sender;

richTextBox1.Text += button.Text;

}

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

{

if (!richTextBox1.Text.Contains(","))

{

richTextBox1.Text += ",";

}

}

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

{

Button button = (Button)sender;

string newOperator = button.Text;

if (!string.IsNullOrEmpty(currentOperator))

{

Calculate();

}

currentValue = double.Parse(richTextBox1.Text);

currentOperator = newOperator;

isNewNumber = true;

}

private void Calculate()

{

double secondValue = double.Parse(richTextBox1.Text);

switch (currentOperator)

{

case "+":

currentValue += secondValue;

break;

case "-":

currentValue -= secondValue;

break;

case "x":

currentValue \*= secondValue;

break;

case "/":

currentValue /= secondValue;

break;

case "%":

currentValue = currentValue \* secondValue / 100;

break;

}

richTextBox1.Text = currentValue.ToString();

}

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

{

Calculate();

currentOperator = "";

isNewNumber = true;

}

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

{

currentValue = 0;

currentOperator = "";

richTextBox1.Text = "0";

isNewNumber = true;

}

}

}

**Form1.Designer.cs**

namespace Лаб.\_раб\_2

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

button1 = new Button();

button2 = new Button();

button3 = new Button();

button4 = new Button();

button5 = new Button();

button6 = new Button();

button7 = new Button();

button8 = new Button();

button9 = new Button();

button10 = new Button();

button11 = new Button();

button12 = new Button();

button13 = new Button();

button14 = new Button();

button15 = new Button();

button16 = new Button();

button17 = new Button();

button18 = new Button();

richTextBox1 = new RichTextBox();

SuspendLayout();

//

// button1

//

button1.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button1.Location = new Point(24, 247);

button1.Name = "button1";

button1.Size = new Size(109, 60);

button1.TabIndex = 0;

button1.Text = "1";

button1.UseVisualStyleBackColor = true;

button1.Click += NumberButton\_Click;

//

// button2

//

button2.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button2.Location = new Point(153, 247);

button2.Name = "button2";

button2.Size = new Size(109, 60);

button2.TabIndex = 1;

button2.Text = "2";

button2.UseVisualStyleBackColor = true;

button2.Click += NumberButton\_Click;

//

// button3

//

button3.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button3.Location = new Point(282, 247);

button3.Name = "button3";

button3.Size = new Size(109, 60);

button3.TabIndex = 2;

button3.Text = "3";

button3.UseVisualStyleBackColor = true;

button3.Click += NumberButton\_Click;

//

// button4

//

button4.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button4.Location = new Point(24, 327);

button4.Name = "button4";

button4.Size = new Size(109, 60);

button4.TabIndex = 3;

button4.Text = "4";

button4.UseVisualStyleBackColor = true;

button4.Click += NumberButton\_Click;

//

// button5

//

button5.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button5.Location = new Point(153, 327);

button5.Name = "button5";

button5.Size = new Size(109, 60);

button5.TabIndex = 4;

button5.Text = "5";

button5.UseVisualStyleBackColor = true;

button5.Click += NumberButton\_Click;

//

// button6

//

button6.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button6.Location = new Point(282, 327);

button6.Name = "button6";

button6.Size = new Size(109, 60);

button6.TabIndex = 5;

button6.Text = "6";

button6.UseVisualStyleBackColor = true;

button6.Click += NumberButton\_Click;

//

// button7

//

button7.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button7.Location = new Point(24, 409);

button7.Name = "button7";

button7.Size = new Size(109, 60);

button7.TabIndex = 6;

button7.Text = "7";

button7.UseVisualStyleBackColor = true;

button7.Click += NumberButton\_Click;

//

// button8

//

button8.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button8.Location = new Point(153, 409);

button8.Name = "button8";

button8.Size = new Size(109, 60);

button8.TabIndex = 7;

button8.Text = "8";

button8.UseVisualStyleBackColor = true;

button8.Click += NumberButton\_Click;

//

// button9

//

button9.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button9.Location = new Point(282, 409);

button9.Name = "button9";

button9.Size = new Size(109, 60);

button9.TabIndex = 8;

button9.Text = "9";

button9.UseVisualStyleBackColor = true;

button9.Click += NumberButton\_Click;

//

// button10

//

button10.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button10.Location = new Point(24, 493);

button10.Name = "button10";

button10.Size = new Size(109, 60);

button10.TabIndex = 10;

button10.Text = "0";

button10.UseVisualStyleBackColor = true;

button10.Click += NumberButton\_Click;

//

// button11

//

button11.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button11.Location = new Point(153, 493);

button11.Name = "button11";

button11.Size = new Size(109, 60);

button11.TabIndex = 11;

button11.Text = ",";

button11.UseVisualStyleBackColor = true;

button11.Click += DecimalButton\_Click;

//

// button12

//

button12.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button12.Location = new Point(282, 493);

button12.Name = "button12";

button12.Size = new Size(238, 60);

button12.TabIndex = 12;

button12.Text = "=";

button12.UseVisualStyleBackColor = true;

button12.Click += EqualsButton\_Click;

//

// button13

//

button13.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button13.Location = new Point(411, 409);

button13.Name = "button13";

button13.Size = new Size(109, 60);

button13.TabIndex = 13;

button13.Text = "+";

button13.UseVisualStyleBackColor = true;

button13.Click += OperatorButton\_Click;

//

// button14

//

button14.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button14.Location = new Point(411, 327);

button14.Name = "button14";

button14.Size = new Size(109, 60);

button14.TabIndex = 14;

button14.Text = "-";

button14.UseVisualStyleBackColor = true;

button14.Click += OperatorButton\_Click;

//

// button15

//

button15.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button15.Location = new Point(411, 247);

button15.Name = "button15";

button15.Size = new Size(109, 60);

button15.TabIndex = 15;

button15.Text = "x";

button15.UseVisualStyleBackColor = true;

button15.Click += OperatorButton\_Click;

//

// button16

//

button16.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button16.Location = new Point(411, 171);

button16.Name = "button16";

button16.Size = new Size(109, 60);

button16.TabIndex = 16;

button16.Text = "/";

button16.UseVisualStyleBackColor = true;

button16.Click += OperatorButton\_Click;

//

// button17

//

button17.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button17.Location = new Point(282, 171);

button17.Name = "button17";

button17.Size = new Size(109, 60);

button17.TabIndex = 17;

button17.Text = "%";

button17.UseVisualStyleBackColor = true;

button17.Click += OperatorButton\_Click;

//

// button18

//

button18.Font = new Font("Segoe UI", 13.8F, FontStyle.Regular, GraphicsUnit.Point);

button18.Location = new Point(24, 171);

button18.Name = "button18";

button18.Size = new Size(238, 60);

button18.TabIndex = 18;

button18.Text = "АС";

button18.UseVisualStyleBackColor = true;

button18.Click += ClearButton\_Click;

//

// richTextBox1

//

richTextBox1.Font = new Font("Segoe UI", 22.2F, FontStyle.Regular, GraphicsUnit.Point);

richTextBox1.Location = new Point(24, 54);

richTextBox1.Name = "richTextBox1";

richTextBox1.Size = new Size(496, 65);

richTextBox1.TabIndex = 19;

richTextBox1.Text = "0";

//

// Form1

//

AutoScaleDimensions = new SizeF(8F, 20F);

AutoScaleMode = AutoScaleMode.Font;

AutoSizeMode = AutoSizeMode.GrowAndShrink;

ClientSize = new Size(550, 612);

Controls.Add(richTextBox1);

Controls.Add(button18);

Controls.Add(button17);

Controls.Add(button16);

Controls.Add(button15);

Controls.Add(button14);

Controls.Add(button13);

Controls.Add(button12);

Controls.Add(button11);

Controls.Add(button10);

Controls.Add(button9);

Controls.Add(button8);

Controls.Add(button7);

Controls.Add(button6);

Controls.Add(button5);

Controls.Add(button4);

Controls.Add(button3);

Controls.Add(button2);

Controls.Add(button1);

FormBorderStyle = FormBorderStyle.FixedSingle;

Name = "Form1";

Text = "Калькулятор";

ResumeLayout(false);

}

#endregion

private Button button1;

private Button button2;

private Button button3;

private Button button4;

private Button button5;

private Button button6;

private Button button7;

private Button button8;

private Button button9;

private Button button10;

private Button button11;

private Button button12;

private Button button13;

private Button button14;

private Button button15;

private Button button16;

private Button button17;

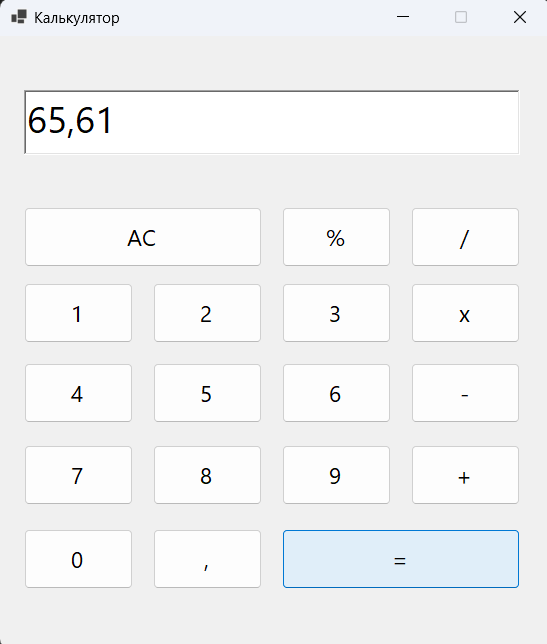
private Button button18;

private RichTextBox richTextBox1;

}

}

**Результат работы программы:**

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