TUGAS JURNAL

KONSTRUKSI PERANGKAT LUNAK

MODUL 3

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OLEH :

TIURMA GRACE ANGELINA – 2311104042

S1-SE07-02

Dosen :

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Prodi S1 Rekaya Perangkat Lunak

Direktorat Kampus Purwokerto

CODE :

1. **Form1.cs**

```
using System;
using System.Windows.Forms;

namespace KPL_TiurmaGraceA_2311104042_S1SE_07_02
{
   public partial class Form1 : Form
   {
      private string currentInput = "";
      private int total = 0;
      private bool isNewInput = true;

      public Form1()
      {
         InitializeComponent();
      }

      private void Form1_Load(object sender, EventArgs e)
      {
         labelOutput.Text = "0";
      }

      private void Button_Click(object sender, EventArgs e)
      {
         Button button = sender as Button;
         string buttonText = button.Text;

         if (char.IsDigit(buttonText, 0))
         {
            if (isNewInput)
            {
               currentInput = buttonText;
               isNewInput = false;
            }
            else
            {
               currentInput += buttonText;
            }
            labelOutput.Text = currentInput;
         }
         else if (buttonText == "+")
```

```
        {
            if (!string.IsNullOrEmpty(currentInput))
            {
                total += int.Parse(currentInput);
                currentInput = "";
                labelOutput.Text = total.ToString();
                isNewInput = true;
            }
        }
        else if (buttonText == "=")
        {
            if (!string.IsNullOrEmpty(currentInput))
            {
                total += int.Parse(currentInput);
            }

            labelOutput.Text = total.ToString();

            currentInput = "";
            total = 0;
            isNewInput = true;
        }
    }
  }
}
```

2. Form1.Designer.cs

```
using System;
using System.Windows.Forms;

namespace KPL_TiurmaGraceA_2311104042_S1SE_07_02
{
  partial class Form1
  {
    private System.ComponentModel.IContainer components = null;
    private System.Windows.Forms.TableLayoutPanel tableLayoutPanel1;
    private System.Windows.Forms.TableLayoutPanel operatorPanel;
    private System.Windows.Forms.Label labelOutput;

    protected override void Dispose(bool disposing)
    {
```

```
        if (disposing && (components != null))
        {
            components.Dispose();
        }
        base.Dispose(disposing);
    }

    #region Windows Form Designer generated code

    private void InitializeComponent()
    {
        this.tableLayoutPanel1 = new System.Windows.Forms.TableLayoutPanel();
        this.operatorPanel = new System.Windows.Forms.TableLayoutPanel();
        this.labelOutput = new System.Windows.Forms.Label();
        this.SuspendLayout();

        this.BackColor = System.Drawing.Color.WhiteSmoke;
        this.ClientSize = new System.Drawing.Size(400, 500);
        this.Name = "Form1";
        this.Text = "Kalkulator Sederhana";
        this.Load += new System.EventHandler(this.Form1_Load);

        this.labelOutput.Font = new System.Drawing.Font("Segoe UI", 24F,
System.Drawing.FontStyle.Bold);
        this.labelOutput.Location = new System.Drawing.Point(12, 20);
        this.labelOutput.Name = "labelOutput";
        this.labelOutput.Size = new System.Drawing.Size(360, 50);
        this.labelOutput.Text = "0";
        this.labelOutput.BackColor = System.Drawing.Color.White;
        this.labelOutput.TextAlign = System.Drawing.ContentAlignment.MiddleRight;
        this.labelOutput.BorderStyle = System.Windows.Forms.BorderStyle.FixedSingle;

        this.tableLayoutPanel1.ColumnCount = 3;
        this.tableLayoutPanel1.RowCount = 4;
        this.tableLayoutPanel1.ColumnStyles.Add(new
System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 33F));
        this.tableLayoutPanel1.ColumnStyles.Add(new
System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 33F));
        this.tableLayoutPanel1.ColumnStyles.Add(new
System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 33F));
        this.tableLayoutPanel1.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 25F));
        this.tableLayoutPanel1.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 25F));
```

```
        this.tableLayoutPanel1.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 25F));
        this.tableLayoutPanel1.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 25F));
        this.tableLayoutPanel1.Location = new System.Drawing.Point(12, 90);
        this.tableLayoutPanel1.Size = new System.Drawing.Size(240, 320);
        this.tableLayoutPanel1.BackColor = System.Drawing.Color.White;
        AddButtons();

        this.operatorPanel.ColumnCount = 1;
        this.operatorPanel.RowCount = 2;
        this.operatorPanel.ColumnStyles.Add(new
System.Windows.Forms.ColumnStyle(System.Windows.Forms.SizeType.Percent, 100F));
        this.operatorPanel.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 50F));
        this.operatorPanel.RowStyles.Add(new
System.Windows.Forms.RowStyle(System.Windows.Forms.SizeType.Percent, 50F));
        this.operatorPanel.Location = new System.Drawing.Point(270, 90);
        this.operatorPanel.Size = new System.Drawing.Size(80, 160);
        this.operatorPanel.BackColor = System.Drawing.Color.White;
        AddOperatorButtons();

        this.Controls.Add(this.labelOutput);
        this.Controls.Add(this.tableLayoutPanel1);
        this.Controls.Add(this.operatorPanel);
        this.ResumeLayout(false);
    }

    private void AddButtons()
    {
        string[,] buttonTexts = new string[4, 3]
        {
    { "1", "2", "3" },
    { "4", "5", "6" },
    { "7", "8", "9" },
    { "", "0", "" }
        };

        for (int row = 0; row < 4; row++)
        {
            for (int col = 0; col < 3; col++)
            {
                if (buttonTexts[row, col] != "")
                {
```

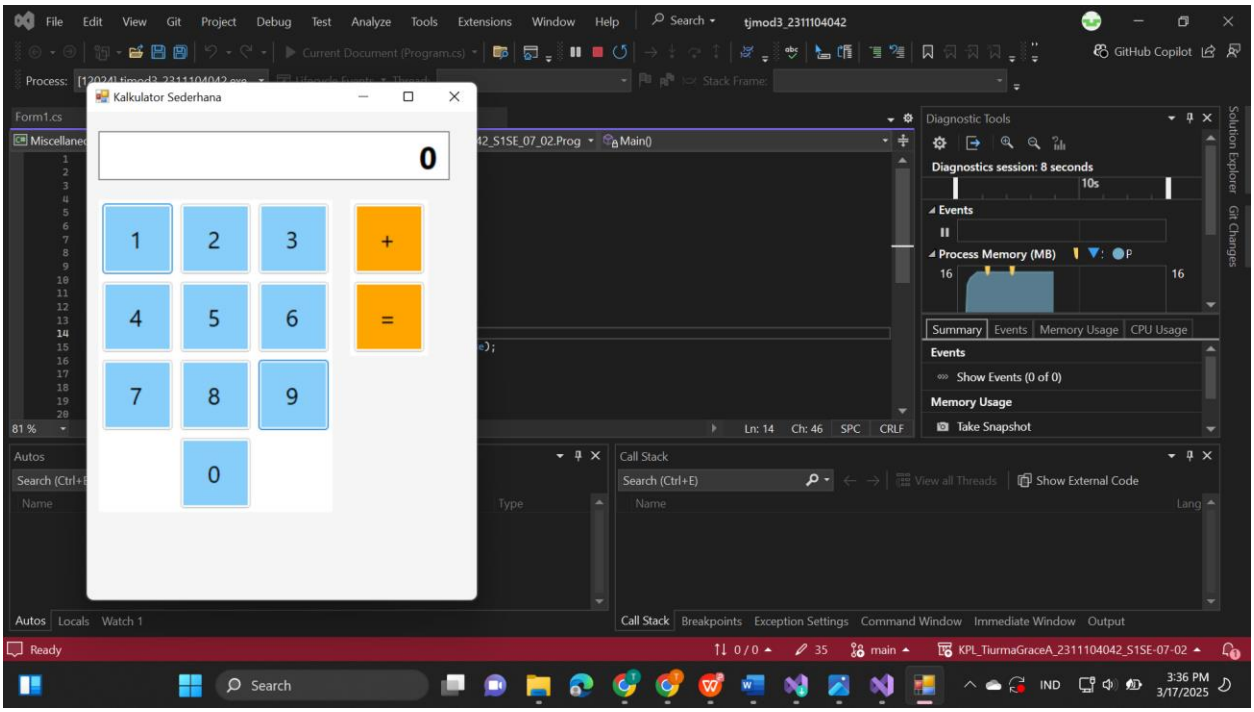
```
                Button btn = new Button();
                btn.Dock = System.Windows.Forms.DockStyle.Fill;
                btn.Font = new System.Drawing.Font("Segoe UI", 18F);
                btn.Text = buttonTexts[row, col];
                btn.Click += new System.EventHandler(this.Button_Click);
                btn.BackColor = System.Drawing.Color.LightSkyBlue;

                if (buttonTexts[row, col] == "0")
                {
                    tableLayoutPanel1.SetColumnSpan(btn, 1);
                    tableLayoutPanel1.Controls.Add(btn, 1, row);
                }
                else
                {
                    tableLayoutPanel1.Controls.Add(btn, col, row);
                }
            }
        }
    }


    private void AddOperatorButtons()
    {
        string[] operators = { "+", "=" };

        for (int i = 0; i < 2; i++)
        {
            Button btn = new Button();
            btn.Dock = System.Windows.Forms.DockStyle.Fill;
            btn.Font = new System.Drawing.Font("Segoe UI", 18F);
            btn.Text = operators[i];
            btn.Click += new System.EventHandler(this.Button_Click);
            btn.BackColor = System.Drawing.Color.Orange;
            operatorPanel.Controls.Add(btn, 0, i);
        }
    }

    #endregion
  }
}
```

3. **Program.cs**

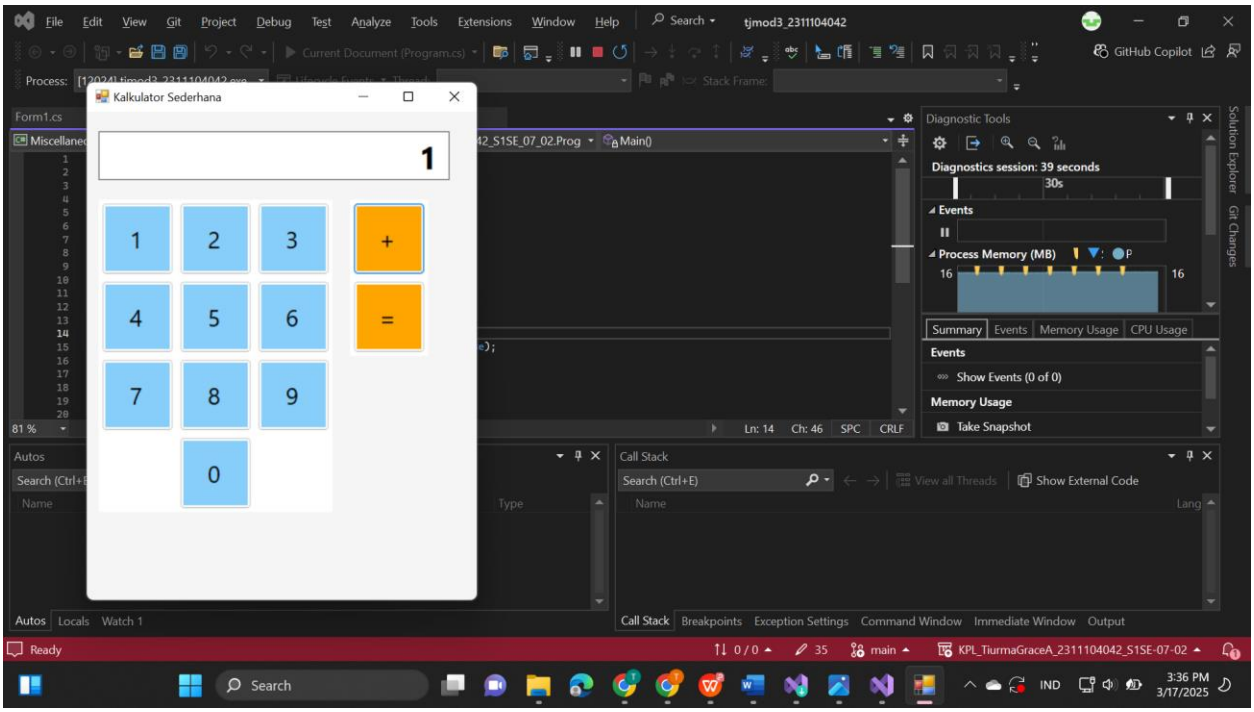
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace KPL_TiurmaGraceA_2311104042_S1SE_07_02
{
   static class Program
   {
      [STAThread]
      static void Main()
      {
         Application.EnableVisualStyles();
         Application.SetCompatibleTextRenderingDefault(false);
         Application.Run(new Form1());
      }
   }
}
```

OUTPUT :

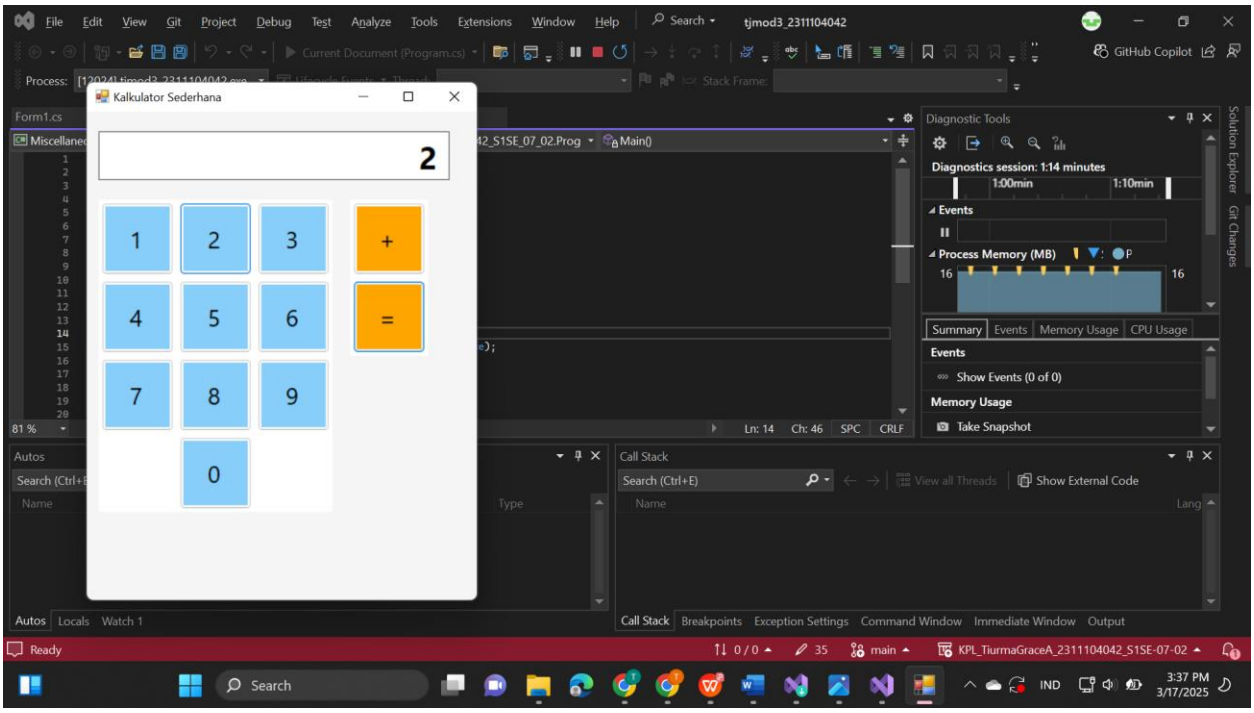
0



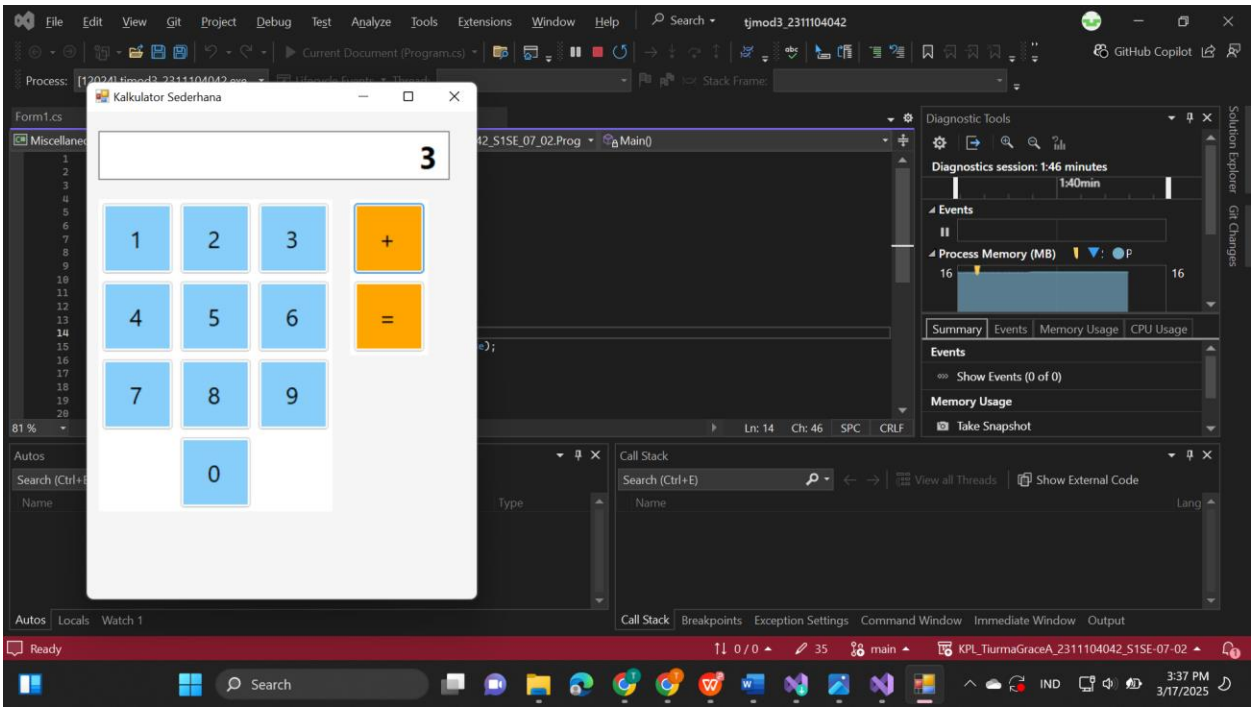
1+


Kalkulator Sederhana
1
1
2
3
+
4
5
6
=
7
8
9
0

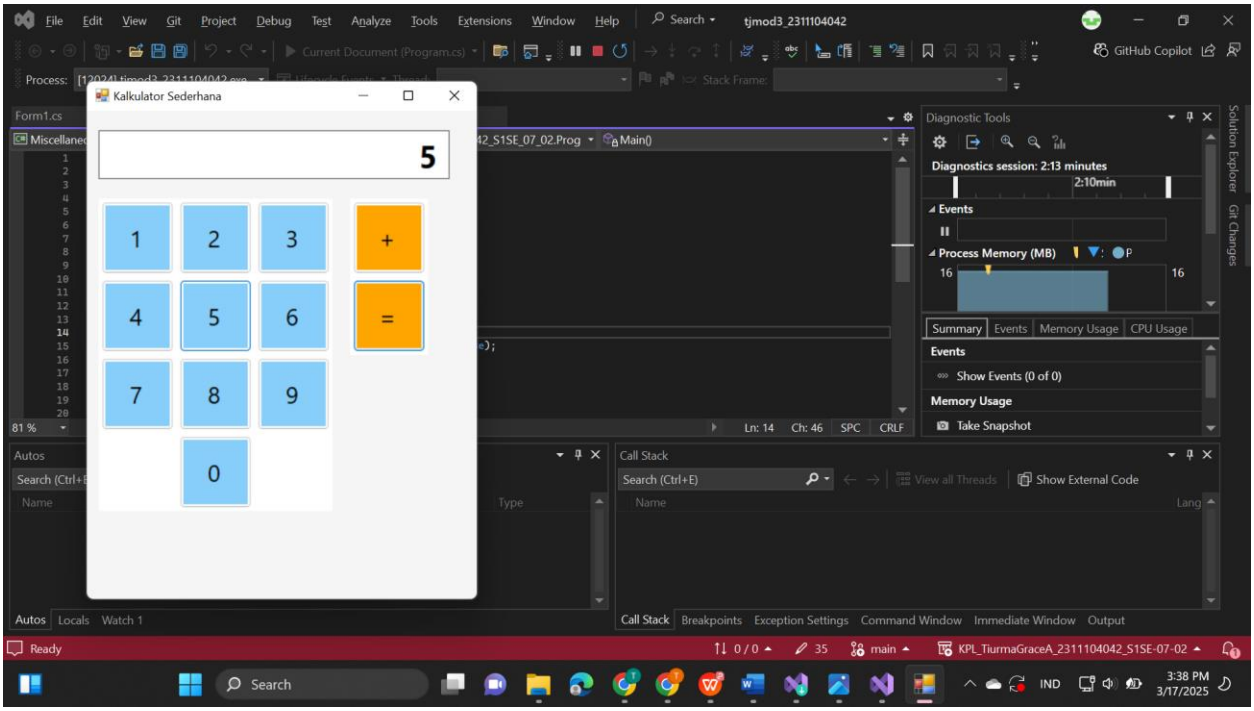
1+2 =


Kalkulator Sederhana
2
1
2
3
+
4
5
6
=
7
8
9
0

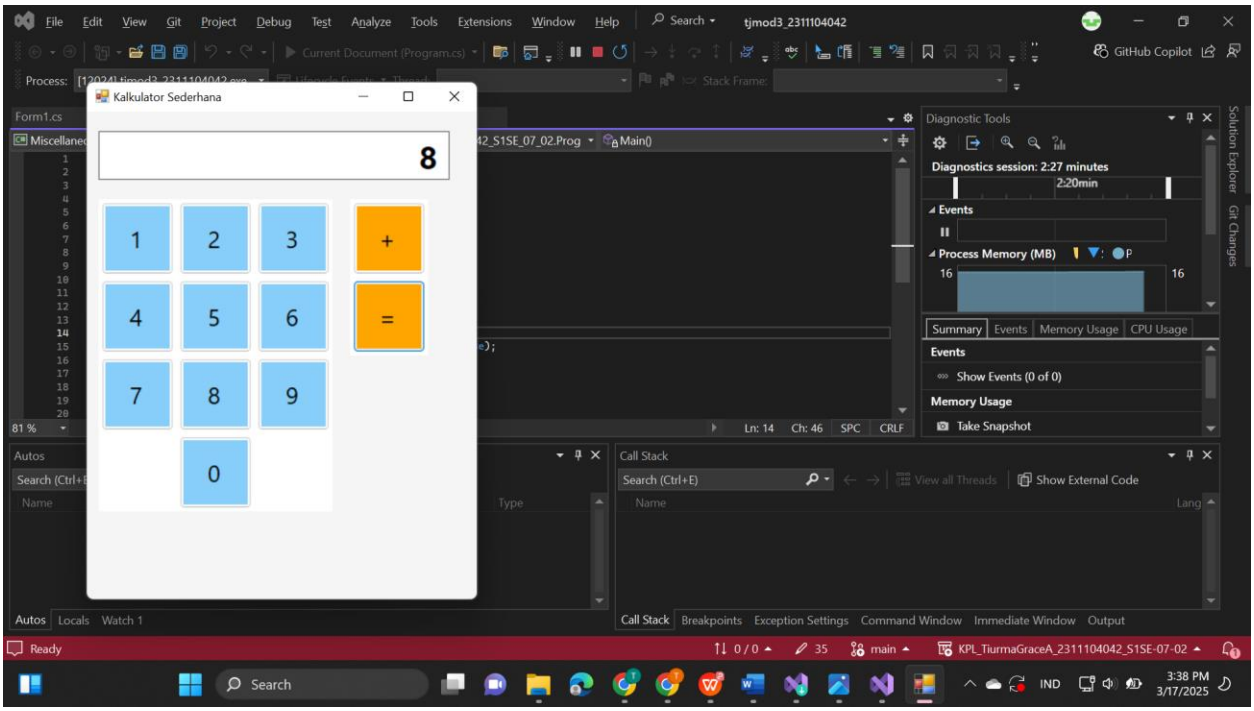
3+


Kalkulator Sederhana
3
1
2
3
+
4
5
6
=
7
8
9
0

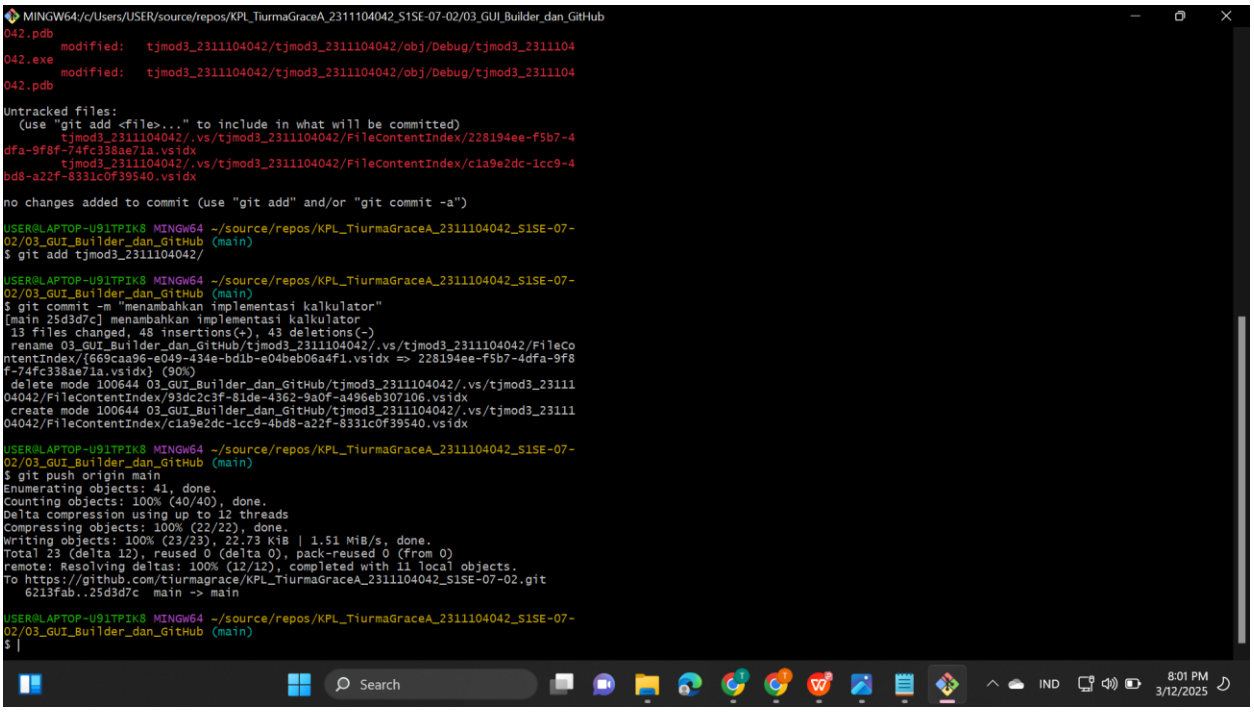
3+5 =

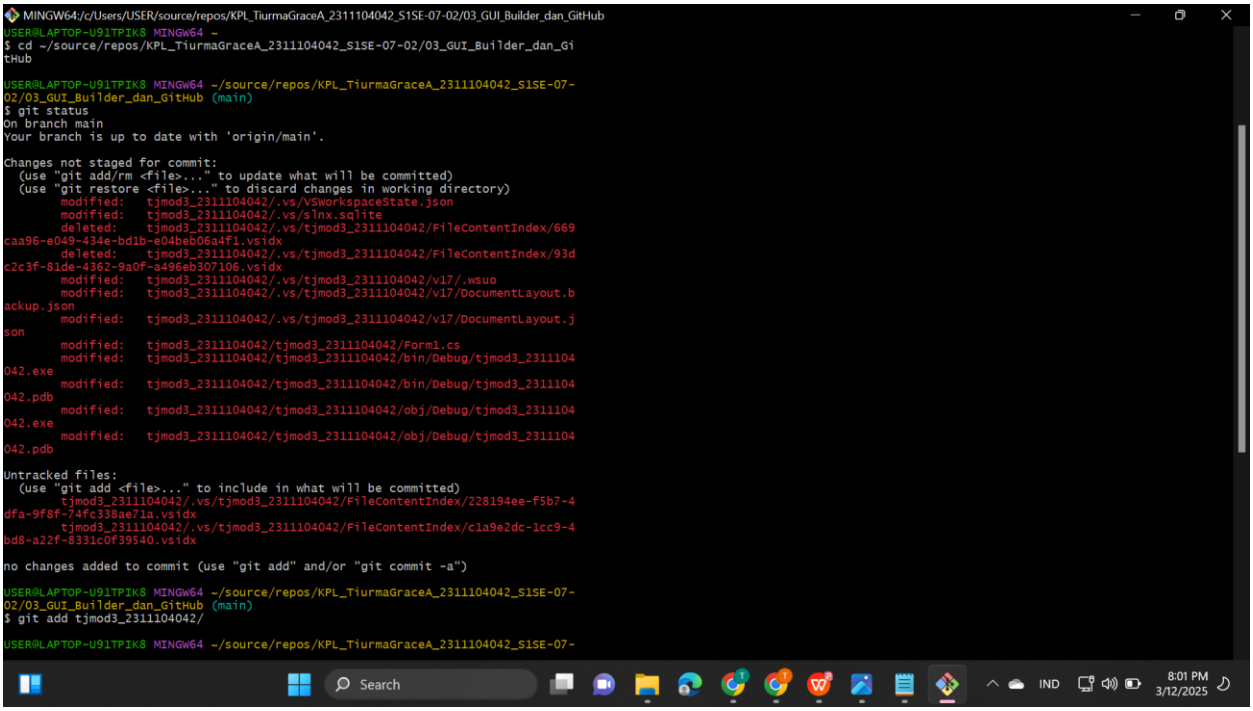

Kalkulator Sederhana
5
1
2
3
+
4
5
6
=
7
8
9
0

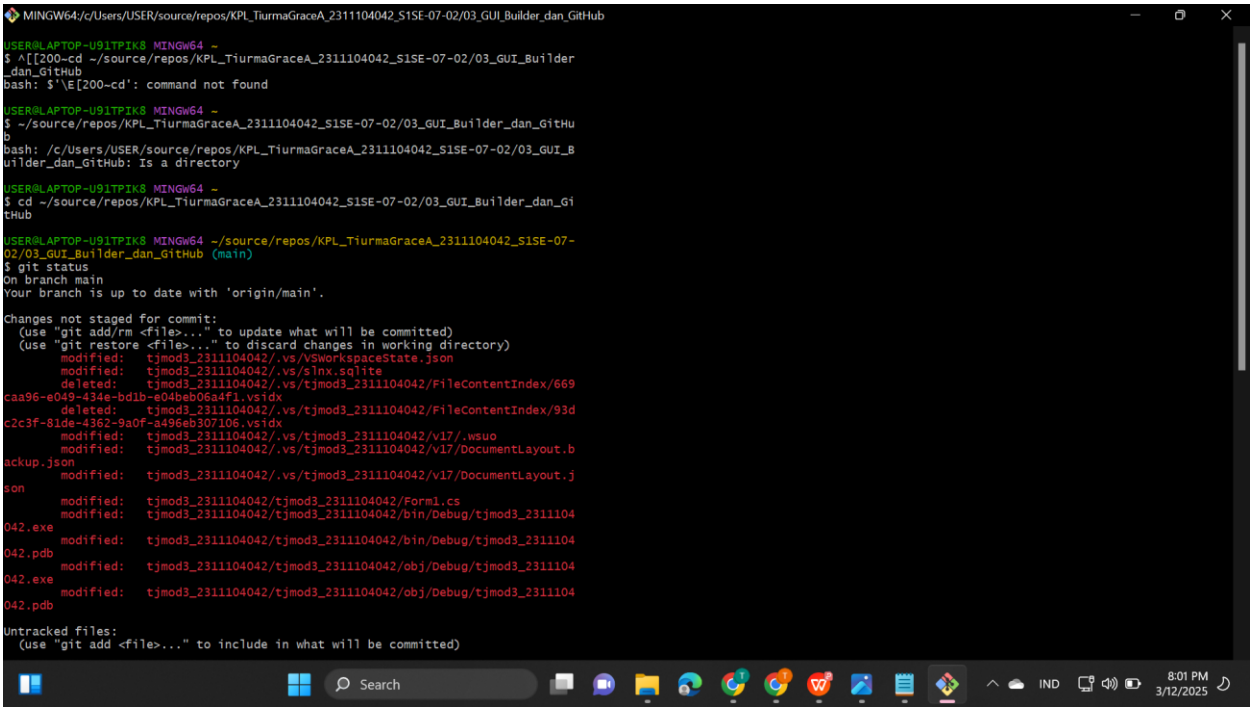
8


Kalkulator Sederhana
8
1
2
3
+
4
5
6
=
7
8
9
0

Commit :


MINGW64:/c/Users/USER/source/repos/KPL_TiurmaGraceA_2311104042_S1SE-07-02/03_GUI_Builder_dan_GitHub
modified: tjmod3_2311104042/tjmod3_2311104042/obj/Debug/tjmod3_2311104042.pdb
modified: tjmod3_2311104042/tjmod3_2311104042/obj/Debug/tjmod3_2311104042.exe
modified: tjmod3_2311104042/tjmod3_2311104042/obj/Debug/tjmod3_2311104042.pdb
Untracked files:
(use "git add <file>..." to include in what will be committed)
tjmod3_2311104042/.vs/tjmod3_2311104042/FileContentIndex/228194ee-f5b7-4dfa-9f8f-74fc338ae71a.vsidx
tjmod3_2311104042/.vs/tjmod3_2311104042/FileContentIndex/c1a9e2dc-1cc9-4bd8-a22f-8331c0f39540.vsidx
no changes added to commit (use "git add" and/or "git commit -a")
USER@LAPTOP-U91TPIK8 MINGW64 ~/source/repos/KPL_TiurmaGraceA_2311104042_S1SE-07-02/03_GUI_Builder_dan_GitHub (main)
$ git add tjmod3_2311104042/
USER@LAPTOP-U91TPIK8 MINGW64 ~/source/repos/KPL_TiurmaGraceA_2311104042_S1SE-07-02/03_GUI_Builder_dan_GitHub (main)
$ git commit -m "menambahkan implementasi kalkulator"
[main 25d3d7c] menambahkan implementasi kalkulator
13 files changed, 48 insertions(+), 43 deletions(-)
rename 03_GUI_Builder_dan_GitHub/tjmod3_2311104042/.vs/tjmod3_2311104042/FileContentIndex/{669caa96-e049-434e-bd1b-e04beb06a4f1.vsidx => 228194ee-f5b7-4dfa-9f8f-74fc338ae71a.vsidx} (90%)
delete mode 100644 03_GUI_Builder_dan_GitHub/tjmod3_2311104042/.vs/tjmod3_2311104042/FileContentIndex/93dc2c3f-81de-4362-9a0f-a496eb307106.vsidx
create mode 100644 03_GUI_Builder_dan_GitHub/tjmod3_2311104042/.vs/tjmod3_2311104042/FileContentIndex/c1a9e2dc-1cc9-4bd8-a22f-8331c0f39540.vsidx
USER@LAPTOP-U91TPIK8 MINGW64 ~/source/repos/KPL_TiurmaGraceA_2311104042_S1SE-07-02/03_GUI_Builder_dan_GitHub (main)
$ git push origin main
Enumerating objects: 41, done.
Counting objects: 100% (40/40), done.
Delta compression using up to 12 threads
Compressing objects: 100% (22/22), done.
Writing objects: 100% (23/23), 22.73 KiB | 1.51 MiB/s, done.
Total 23 (delta 12), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (12/12), completed with 11 local objects.
To https://github.com/tiurmagrace/KPL_TiurmaGraceA_2311104042_S1SE-07-02.git
6213fab..25d3d7c main -> main
USER@LAPTOP-U91TPIK8 MINGW64 ~/source/repos/KPL_TiurmaGraceA_2311104042_S1SE-07-02/03_GUI_Builder_dan_GitHub (main)
$





Penjelasan :

Komponen yang digunakan:

- Label ➜ Menampilkan hasil angka
- Button (1-9, 0, +, =) ➜ Untuk input angka

- TableLayoutPanel ➜ Mengatur layout tombol

Cara Kerja Program

- User menekan tombol angka (1, 2, 3, dst).
- Angka akan ditampilkan pada **LabelOutput**.
- Ketika tombol "+" ditekan, angka yang sebelumnya dimasukkan akan **disimpan sebagai total sementara**.
- Jika tombol "=" ditekan, hasil penjumlahan akan ditampilkan pada **LabelOutput**.

Penjelasan Kode

- currentInput ➜ Untuk menyimpan angka yang sedang diketik.
- total ➜ Untuk menyimpan hasil penjumlahan sementara.
- isNewInput ➜ Menandakan apakah input baru atau lanjutan.