

**JURNAL**  
**KONSTRUKSI PERANGKAT LUNAK**  
**PERTEMUAN 3**



**Dibuat Oleh :**

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SE0601

**PROGRAM STUDI S1 SOFTWARE ENGINEERING**

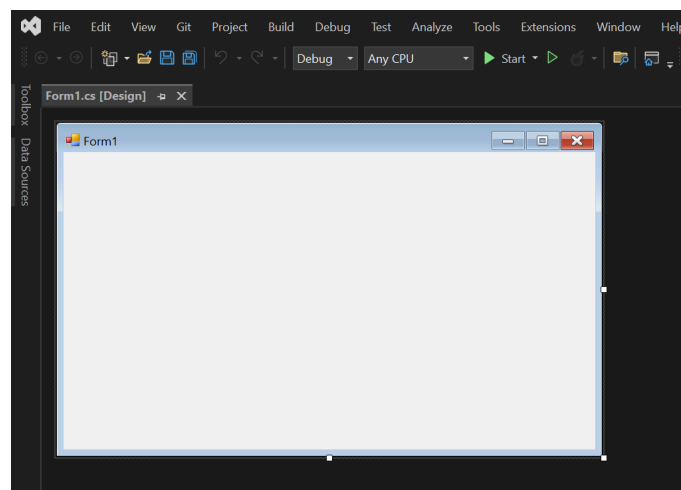
**FAKULTAS INFORMATIKA**

**TELKOM UNIVERSITY PURWOKERTO**

**2025**

1. Membuat Project Baru
  - a. Membuat repository baru

- b. Buat project baru pada IDE dengan nama modul2\_2211104019



c. Melakukan first commit dan push

```
MINGW64:/d/KPL Project/Praktikum_KPL

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git add .

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git commit -m "first commit"
[main (root-commit) 07431a8] first commit
 42 files changed, 585 insertions(+)
 create mode 100644 hasil praktikum/praktek3/.vs/praktek3/FileContentIndex/970d9afe-83ed-4efe-9b6f-7028cc1fd17f.vsix
 create mode 100644 hasil praktikum/praktek3/.vs/praktek3/v17/.suo
 create mode 100644 hasil praktikum/praktek3/.vs/praktek3/v17/DocumentLayout.backup.json
 create mode 100644 hasil praktikum/praktek3/.vs/praktek3/v17/DocumentLayout.json
 create mode 100644 hasil praktikum/praktek3/praktek3.sln
 create mode 100644 hasil praktikum/praktek3/praktek3/App.config
 create mode 100644 hasil praktikum/praktek3/praktek3/Program.cs
 create mode 100644 hasil praktikum/praktek3/praktek3/Properties/AssemblyInfo.cs
 create mode 100644 hasil praktikum/praktek3/praktek3/bin/Debug/praktek3.exe
 create mode 100644 hasil praktikum/praktek3/praktek3/bin/Debug/praktek3.exe.config
 create mode 100644 hasil praktikum/praktek3/praktek3/bin/Debug/praktek3.pdb
 create mode 100644 hasil praktikum/praktek3/praktek3/obj/Debug/.NETFramework,Version=v4.7.2.AssemblyAttributes.cs
 create mode 100644 hasil praktikum/praktek3/praktek3/obj/Debug/DesignTimeResolveAssemblyReferencesInput.cache
 create mode 100644 hasil praktikum/praktek3/praktek3/obj/Debug/praktek3.csproj.AssemblyReference.cache
 create mode 100644 hasil praktikum/praktek3/praktek3/obj/Debug/praktek3.csproj.

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git branch -M main

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git remote add origin https://github.com/Ridham2345/Praktikum_KPL.git

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git push -u origin main
Enumerating objects: 63, done.
Counting objects: 100% (63/63), done.
Delta compression using up to 4 threads
Compressing objects: 100% (56/56), done.
Writing objects: 100% (63/63), 70.97 KiB | 1.77 MiB/s, done.
Total 63 (delta 5), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (5/5), done.
To https://github.com/Ridham2345/Praktikum_KPL.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$
```

## 2. Menambahkan GUI

Dengan spesifikasi sebagai berikut:

- Mempunyai 12 buah button, yang terdiri dari angka “0” sampai “9”, tombol “+” dan tombol “=”
- Mempunyai label text yang menampung output
- Memiliki layout GUI yang mengikuti tampilan berikut ini (tergantung dari hasil mod dari nim praktikan)
- Karena nim saya 2211104019 maka saya menggunakan yang ini :

Label Output		
1	2	3
4	5	6
7	8	9
+	0	=

## 3. Membuat GUI dan mengimplementasikan kalkulator sederhana

### a. GUI

The screenshot shows a Windows application window titled "Form1". Inside the window, there is a text box at the top for displaying the output. Below the text box is a grid of 12 buttons arranged in 4 rows and 3 columns. The buttons are labeled with digits 1 through 9, a plus sign (+), zero (0), and an equals sign (=).

### b. Implementas

```
18
19 namespace modul3_2211104019
20 {
21     3 references
22     public partial class Form1 : Form
23     {
24         private double firstNumber;
25         private string operation = "";
26         private bool isOperationPerformed = false;
27         private TextBox displayTextBox; // Referensi ke TextBox
28
29         1 reference
30         public Form1()
31         {
32             InitializeComponent();
33             InitializeCalculator();
34         }
35
36         1 reference
37         private void InitializeCalculator()
38         {
39             this.Text = "Simple Calculator";
40             this.Size = new Size(300, 400);
41
42             // Inisialisasi TextBox
43             displayTextBox = new TextBox
44             {
45                 Name = "textBox1",
46                 Location = new Point(50, 50),
47                 Size = new Size(200, 30),
48                 ReadOnly = true,
49                 TextAlign = HorizontalAlignment.Right
50             };
51             this.Controls.Add(displayTextBox);
52
53             // Inisialisasi Button
54             string[] buttonTexts = { "7", "8", "9", "4", "5", "6", "1", "2", "3", "0" };
55             int x = 50, y = 100;
56
57             for (int i = 0; i < 10; i++)
58             {
59                 Button btn = new Button
60                 {
61                     Text = buttonTexts[i],
62                     Location = new Point(x + (i % 3) * 50, y + (i / 3) * 50),
63                     Size = new Size(50, 50)
64                 };
65                 btn.Click += (sender, e) => AppendNumber(((Button)sender).Text);
66                 this.Controls.Add(btn);
67             }
68         }
69     }
70 }
```

```

Form1.cs - modul3_2211104016
modul3_2211104016
modul3_2211104016.Form1

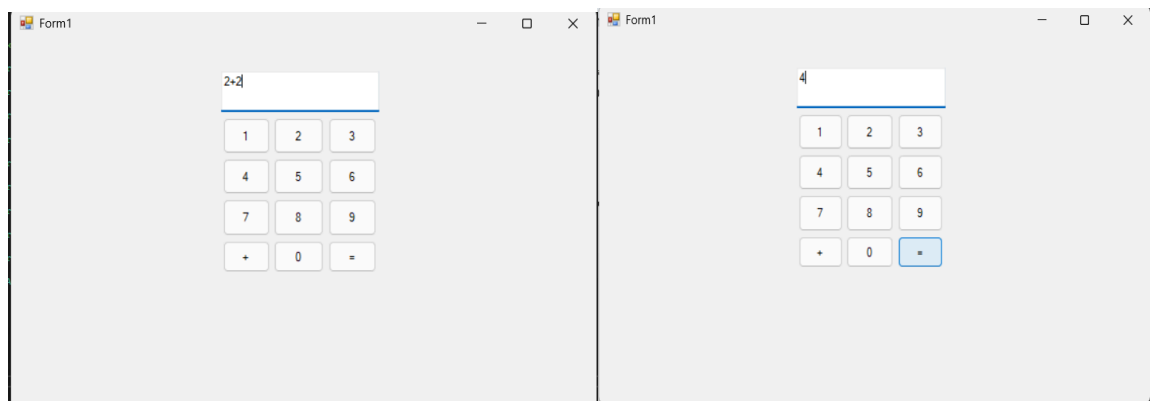
58 Button addButton = new Button
59 {
60     Text = "+",
61     Location = new Point(200, 100),
62     Size = new Size(50, 50)
63 };
64 addButton.Click += buttonAdd_Click;
65 this.Controls.Add(addButton);
66
67 Button equalButton = new Button
68 {
69     Text = "=",
70     Location = new Point(200, 150),
71     Size = new Size(50, 50)
72 };
73 equalButton.Click += buttonEqual_Click;
74 this.Controls.Add(equalButton);
75
76
77 // references
78 private void AppendNumber(string number)
79 {
80     if (isOperationPerformed)
81     {
82         displayTextBox.Text = "";
83         isOperationPerformed = false;
84     }
85     displayTextBox.Text += number;
86 }
87
88 // 1 reference
89 private void buttonAdd_Click(object sender, EventArgs e)
90 {
91     if (double.TryParse(displayTextBox.Text, out firstNumber))
92     {
93         operation = "+";
94         isOperationPerformed = true;
95     }
96 }
97
98
99 // 1 reference
100 private void buttonEqual_Click(object sender, EventArgs e)
101 {
102     if (double.TryParse(displayTextBox.Text, out double secondNumber) && !string.IsNullOrEmpty(operation))
103     {
104         double result = 0;
105         if (operation == "+")
106         {
107             result = firstNumber + secondNumber;
108         }
109         displayTextBox.Text = result.ToString();
110         operation = "";
111         isOperationPerformed = true;
112     }
113     else
114     {
115         MessageBox.Show("Invalid input or operation!");
116     }
117 }
118
119 // Event handler untuk tombol lain (opsional, jika menggunakan Designer)
120 // 1 reference
121 private void button1_Click(object sender, EventArgs e) { AppendNumber("1"); }
122 // 1 reference
123 private void button2_Click(object sender, EventArgs e) { AppendNumber("2"); }
124 // 1 reference
125 private void button3_Click(object sender, EventArgs e) { AppendNumber("3"); }
126 // 1 reference
127 private void button4_Click(object sender, EventArgs e) { AppendNumber("4"); }
128 // 1 reference
129 private void button5_Click(object sender, EventArgs e) { AppendNumber("5"); }
130 // 1 reference
131 private void button6_Click(object sender, EventArgs e) { AppendNumber("6"); }
132 // 1 reference
133 private void button7_Click(object sender, EventArgs e) { AppendNumber("7"); }
134 // 1 reference
135 private void button8_Click(object sender, EventArgs e) { AppendNumber("8"); }
136 // 1 reference
137 private void button9_Click(object sender, EventArgs e) { AppendNumber("9"); }
138 // 1 reference
139 private void button10_Click(object sender, EventArgs e) { AppendNumber("0"); }
140
141 // 1 reference
142 private void textBox1_TextChanged(object sender, EventArgs e)
143 {
144     // Tidak perlu logika khusus di sini kecuali validasi tambahan
145 }

```

Penjelasan :

kalkulator sederhana yang berisi variabel untuk menyimpan angka pertama, operator, dan status operasi, serta TextBox untuk menampilkan input dan hasil. InitializeCalculator mengatur tata letak form, TextBox, dan tombol angka (0-9), "+", serta "=". AppendNumber menambahkan angka ke TextBox, sementara buttonAdd\_Click menyimpan angka pertama dan operator. buttonEqual\_Click menghitung penjumlahan dan menampilkan hasil, dengan penanganan error jika input tidak valid.

Output :



#### 4. Melakukan Last Commit

```
Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git add .

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git commit -m "Last Commit"
[main aac536f] Last Commit
 53 files changed, 1922 insertions(+)
 create mode 100644 hasil praktikum/modul13_2211104016/.vs/modul13_2211104016/FileContentIndex/27c0ae6d-a596-44f4-9db1-4b6258572e1f.vsidx
 create mode 100644 hasil praktikum/modul13_2211104016/.vs/modul13_2211104016/FileContentIndex/dd31bfcb-12cf-4dc4-b3bb-25608908b0eb.vsidx
 create mode 100644 hasil praktikum/modul13_2211104016/.vs/modul13_2211104016/v17/.suo
 create mode 100644 hasil praktikum/modul13_2211104016/.vs/modul13_2211104016/v17/DocumentLayout.backup.json
 create mode 100644 hasil praktikum/modul13_2211104016/.vs/modul13_2211104016/v17/DocumentLayout.json
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016.sln
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/App.config
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Form1.Designer.cs
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Form1.cs
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Form1.resx
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Program.cs
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Properties/AssemblyInfo.cs
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Properties/Resources.Designer.cs
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Properties/Resources.resx
 create mode 100644 hasil praktikum/modul13_2211104016/modul13_2211104016/Properties/Settings.Designer.cs

Idham@LAPTOP-9DA4K8Q8 MINGW64 /d/KPL Project/Praktikum_KPL (main)
$ git push origin main
Enumerating objects: 68, done.
Counting objects: 100% (68/68), done.
Delta compression using up to 4 threads
Compressing objects: 100% (61/61), done.
Writing objects: 100% (66/66), 65.92 KiB | 1.83 MiB/s, done.
Total 66 (delta 16), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (16/16), done.
To https://github.com/Ridham2345/Praktikum_KPL.git
 f8672b0..aac536f  main -> main
```

Link Repo : [https://github.com/Ridham2345/Praktikum\\_KPL.git](https://github.com/Ridham2345/Praktikum_KPL.git)