TUGAS JURNAL
KONSTRUKSI PERANGKAT LUNAK

MODUL XII

Performance_Analysis_Unit_Testing_dan_Debugging

Disusun Oleh :

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SE-06-01

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PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK

FAKULTAS INFORMATIKA

TELKOM UNIVERSITY PURWOKERTO

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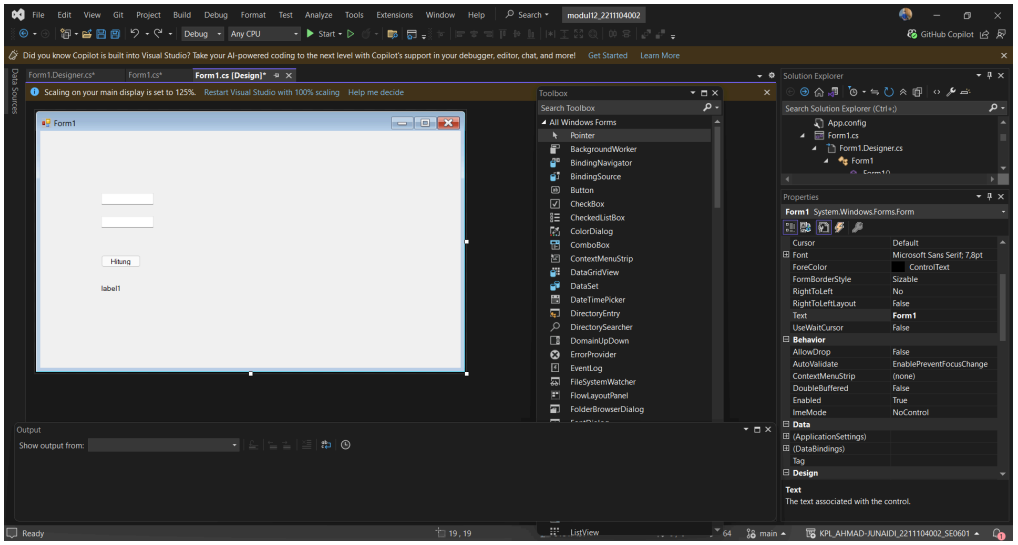
TUGAS JURNAL

1. **Link Github Repository:**
   https://github.com/Ahmadjunaidi101105/KPL_AHMAD-JUNAIDI_2211104002_SE0601/tree/main/12_Performance_Analysis_Unit_Testing_dan_Debugging
2. **MEMBUAT PROJECT GUI**

3. **Menambahkan Komponen GUI di Form Designer**
   a. Buatlah suatu Form atau tampilan GUI sederhana dengan dua buah textbox, satu button dan satu label untuk menampilkan output.

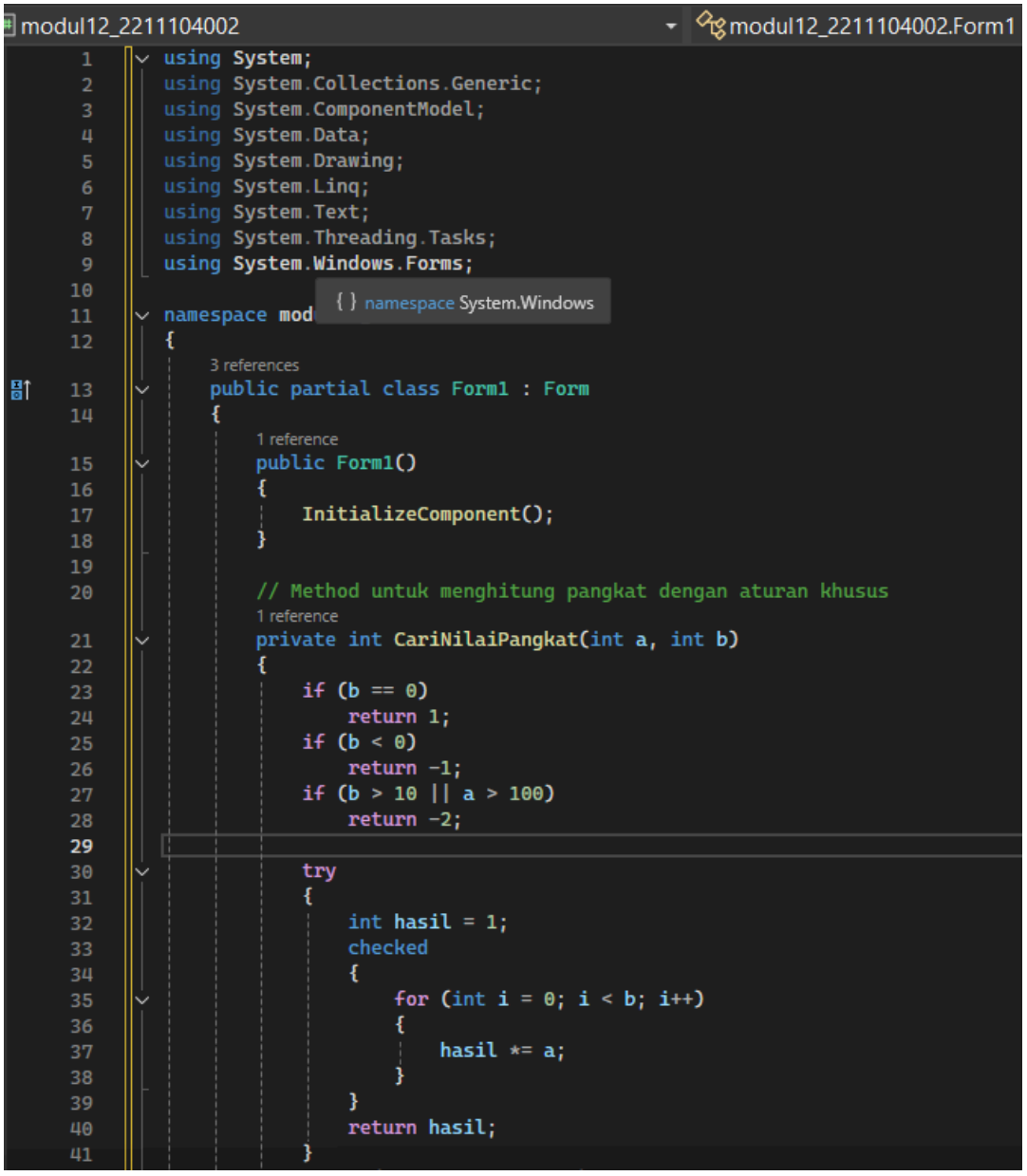


Ganti Nama Komponen (Properties):

i. textBox1 ➜ ubah ke textBoxA
ii. textBox2 ➜ ubah ke textBoxB
iii. button1 ➜ ubah ke btnHitung (ubah juga Text jadi **Hitung**)
iv. label1 ➜ ubah ke labelHasil (kosongkan Text-nya)

   b. Tambahkan satu method dengan nama “CariNilaiPangkat(int a, int b)” yang menerima dua input dan mengembalikan nilai berupa hasil pangkat ab dengan melakukan iterasi (tanpa menggunakan library atau fungsi bawaan).
   c. Pada method tersebut terdapat aturan sebagai berikut (berbeda dengan aturan pangkat normal):

file form.cs :




```
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;

namespace mod
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        // Method untuk menghitung pangkat dengan aturan khusus
        private int CariNilaiPangkat(int a, int b)
        {
            if (b == 0)
                return 1;
            if (b < 0)
                return -1;
            if (b > 10 || a > 100)
                return -2;

            try
            {
                int hasil = 1;
                checked
                {
                    for (int i = 0; i < b; i++)
                    {
                        hasil *= a;
                    }
                }
                return hasil;
            }
```

```
            }
            catch (OverflowException)
            {
                return -3;
            }
        }

        // Event saat tombol diklik
        0 references
        private void btnHitung_Click(object sender, EventArgs e)
        {
            int a, b;

            if (int.TryParse(textBoxA.Text, out a) && int.TryParse(textBoxB.Text, out b))
            {
                int hasil = CariNilaiPangkat(a, b);
                labelHasil.Text = $"Hasil: {hasil}";
            }
            else
            {
                labelHasil.Text = "Input tidak valid!";
            }
        }

        // Tidak digunakan, boleh dihapus jika tidak dipakai
        1 reference
        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }


        private void Form1_Load(object sender, EventArgs e)
        {

        }
    }
}
```

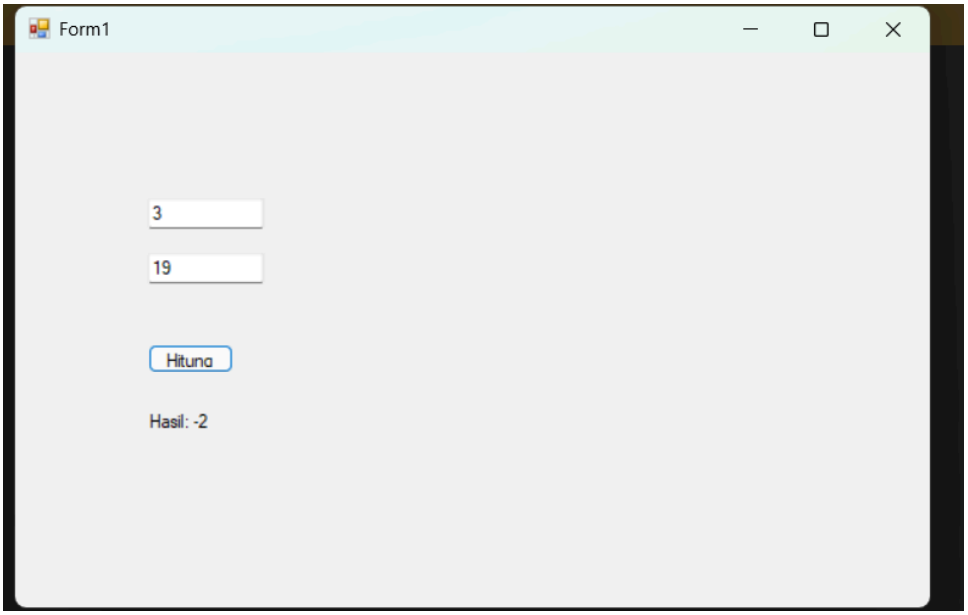
file Form1.Designer.cs :

```
modul12_2211104002                                  modul12_2211104002.Form1
namespace modul12_2211104002
{
    3 references
    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>
        0 references
        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>
        1 reference
        private void InitializeComponent()
        {
            this.textBoxA = new System.Windows.Forms.TextBox();
            this.textBoxB = new System.Windows.Forms.TextBox();
            this.btnHitung = new System.Windows.Forms.Button();
            this.labelHasil = new System.Windows.Forms.Label();
            this.SuspendLayout();
            //
            // textBoxA
            //
            this.textBoxA.Location = new System.Drawing.Point(116, 118);
No issues found
```

```
            this.textBoxA.Location = new System.Drawing.Point(116, 118);
            this.textBoxA.Name = "textBoxA";
            this.textBoxA.Size = new System.Drawing.Size(100, 22);
            this.textBoxA.TabIndex = 0;
            //
            // textBoxB
            //
            this.textBoxB.Location = new System.Drawing.Point(116, 162);
            this.textBoxB.Name = "textBoxB";
            this.textBoxB.Size = new System.Drawing.Size(100, 22);
            this.textBoxB.TabIndex = 1;
            //
            // btnHitung
            //
            this.btnHitung.Location = new System.Drawing.Point(116, 236);
            this.btnHitung.Name = "btnHitung";
            this.btnHitung.Size = new System.Drawing.Size(75, 23);
            this.btnHitung.TabIndex = 2;
            this.btnHitung.Text = "Hitung";
            this.btnHitung.UseVisualStyleBackColor = true;
            this.btnHitung.Click += new System.EventHandler(this.btnHitung_Click);
            //
            // labelHasil
            //
            this.labelHasil.AutoSize = true;
            this.labelHasil.Location = new System.Drawing.Point(113, 291);
            this.labelHasil.Name = "labelHasil";
            this.labelHasil.Size = new System.Drawing.Size(0, 16);
            this.labelHasil.TabIndex = 3;
            //
            // Form1
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 16F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(800, 450);
            this.Controls.Add(this.labelHasil);
            this.Controls.Add(this.btnHitung);
            this.Controls.Add(this.textBoxB);
            this.Controls.Add(this.textBoxA);
            this.Name = "Form1";
```

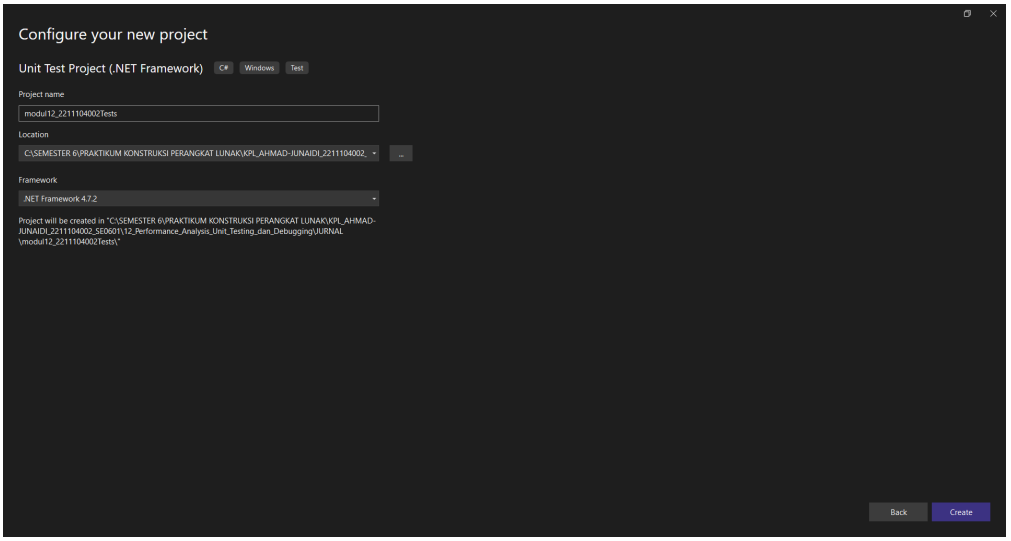
```
            this.Text = "Form1";
            this.Load += new System.EventHandler(this.Form1_Load);
            this.ResumeLayout(false);
            this.PerformLayout();
        }


        #endregion

        private System.Windows.Forms.TextBox textBoxA;
        private System.Windows.Forms.TextBox textBoxB;
        private System.Windows.Forms.Button btnHitung;
        private System.Windows.Forms.Label labelHasil;
    }
}
```

4. MELAKUKAN SOFTWARE PROFILING



5. MENAMBAHKAN UNIT TESTING

- Tambahkan Project Unit Test



- Tambahkan Referensi ke Project Asli