

**Tugas Pendahuluan Modul 4**  
**Konstruksi Perangkat Lunak**  
**PRODI REKAYASA PERANGKAT LUNAK**

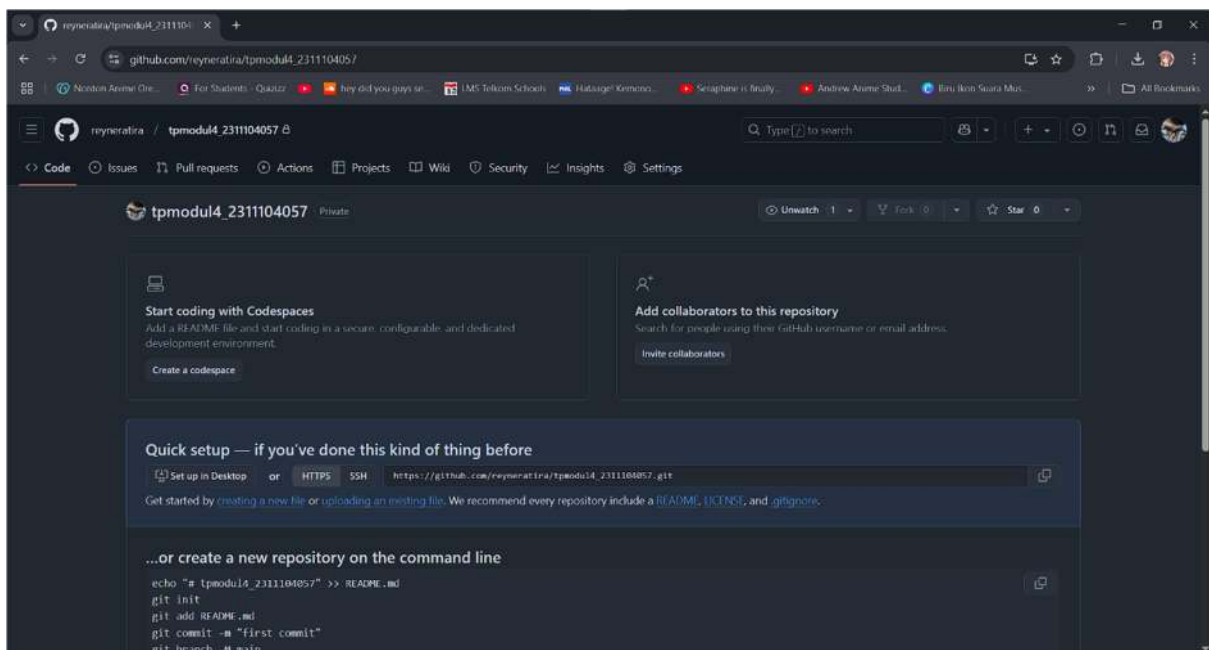
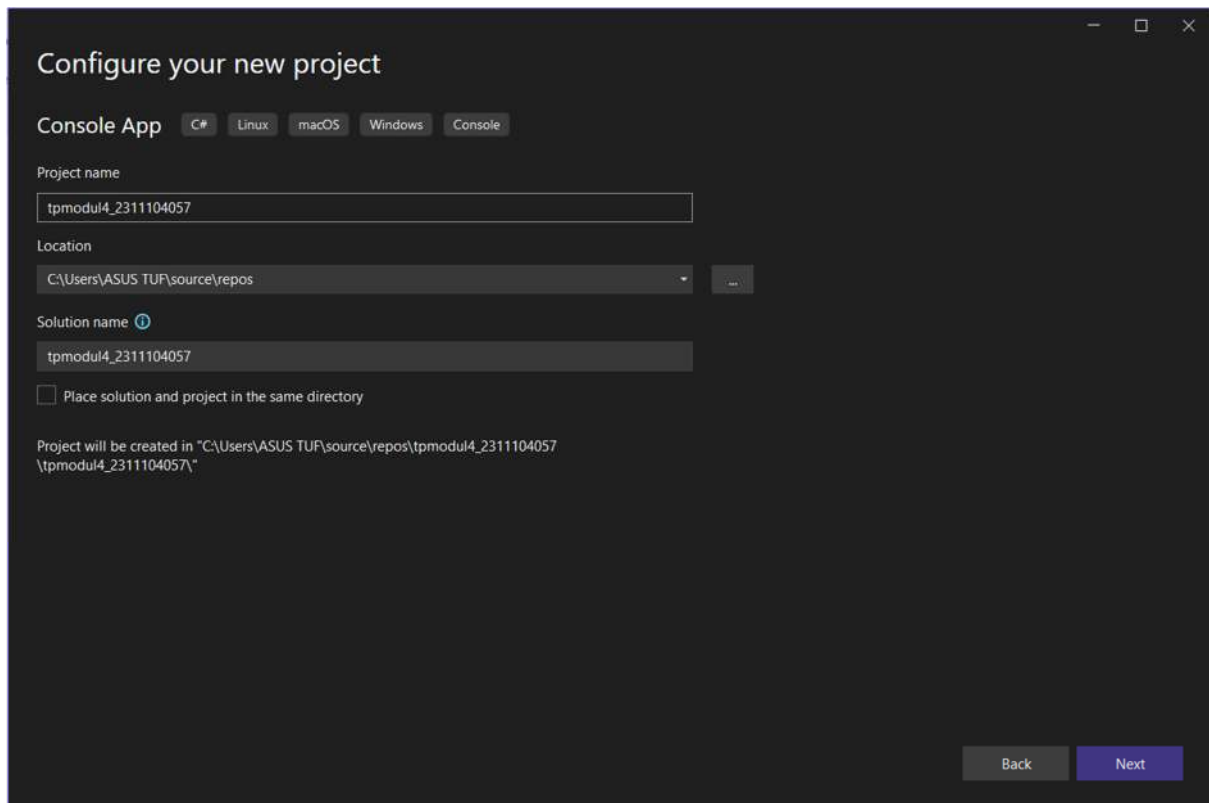


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**PURWOKERTO**

## Tugas Pendahuluan Modul 4

### 1. GitHub dan Git



### 2. Initialize repo

```
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git init
Initialized empty Git repository in C:/Users/ASUS TUF/source/repos/tpmodul4_2311104057/tpmodul4_2311104057/.git/
```

```

PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057>
>> > echo "# Console App Git Ignore" > .gitignore
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git add .
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git commit -m "inisialisasi proyek"
[master (root-commit) a44e0c0] inisialisasi proyek
14 files changed, 241 insertions(+)
create mode 100644 .gitignore
create mode 100644 Program.cs
create mode 100644 obj/Debug/net8.0/.NETCoreApp,Version=v8.0.AssemblyAttributes.cs
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.AssemblyInfo.cs
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.AssemblyInfoInputs.cache
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.GeneratedMSBuildEditorConfig.editorconfig
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.GlobalUsings.g.cs
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.assets.cache
create mode 100644 obj/project.assets.json
create mode 100644 obj/project.nuget.cache
create mode 100644 obj/tpmodul4_2311104057.csproj.nuget.dgspec.json
create mode 100644 obj/tpmodul4_2311104057.csproj.nuget.g.props
create mode 100644 obj/tpmodul4_2311104057.csproj.nuget.g.targets
create mode 100644 tpmodul4_2311104057.csproj
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057>

```

### 3. Table-Driven

```

Program.cs x
tpmodul4_2311104057 x
KodePos
KodePosTable
0 references
1 class KodePos
2 {
3     private static Dictionary<string, string> kodePosTable = new Dictionary<string, string>
4     {
5         {"Batununggal", "40266"},
6         {"Kujangsari", "40287"},
7         {"Mengger", "40267"},
8         {"Wates", "40256"},
9         {"Cijaura", "40287"},
10        {"Jatisari", "40286"},
11        {"Margasari", "40286"},
12        {"Sekejati", "40286"},
13        {"Kebonwaru", "40272"},
14        {"Maleer", "40274"},
15        {"Samoja", "40273"}
16    };
17
18    0 references
19    public static string GetKodePos(string kelurahan)
20    {
21        return kodePosTable.ContainsKey(kelurahan) ? kodePosTable[kelurahan] : "Kode pos tidak ditemukan";
22    }
23

```

Implementasi kelas utama

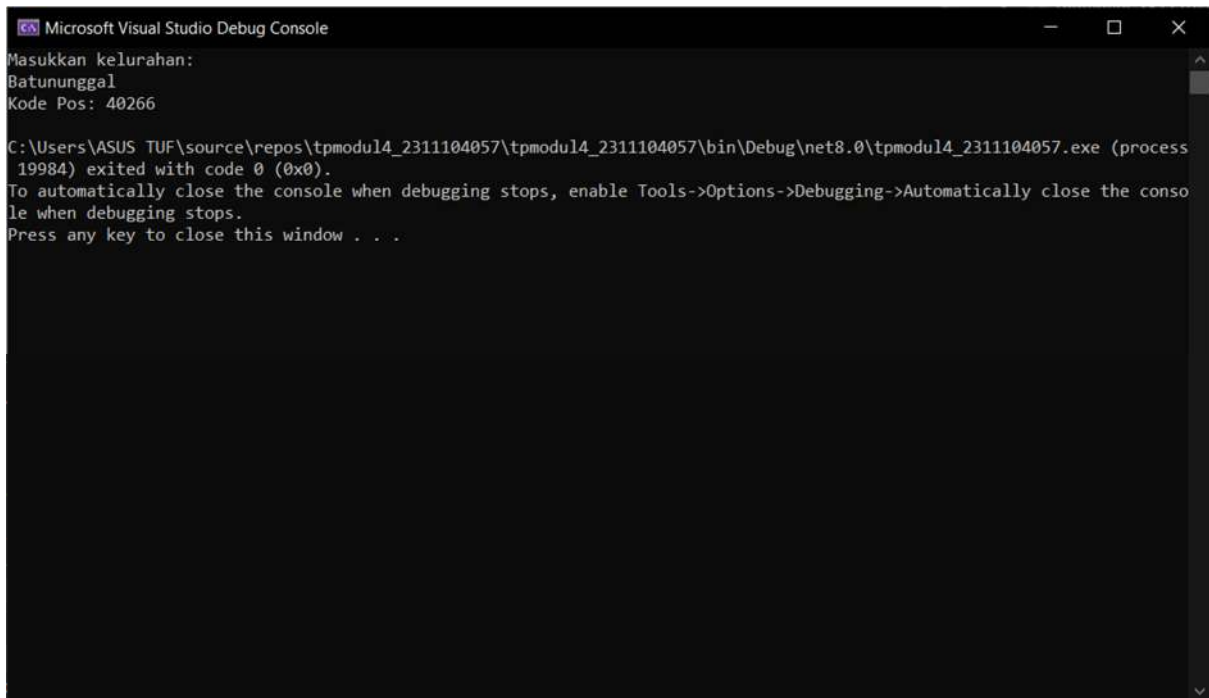
```

0 references
23 class Program
24 {
25     0 references
26     static void Main()
27     {
28         // Table-driven approach
29         Console.WriteLine("Masukkan kelurahan: ");
30         string kelurahan = Console.ReadLine();
31         Console.WriteLine("Kode Pos: " + KodePos.GetKodePos(kelurahan));
32     }
33

```

- Menggunakan Dictionary<string, string> untuk menyimpan daftar kelurahan beserta kode posnya.
- Method GetKodePos(string kelurahan) mencari kode pos berdasarkan nama kelurahan yang diinput oleh pengguna.
- Jika kelurahan ditemukan, kode pos akan dikembalikan. Jika tidak, akan muncul pesan "Kode pos tidak ditemukan."

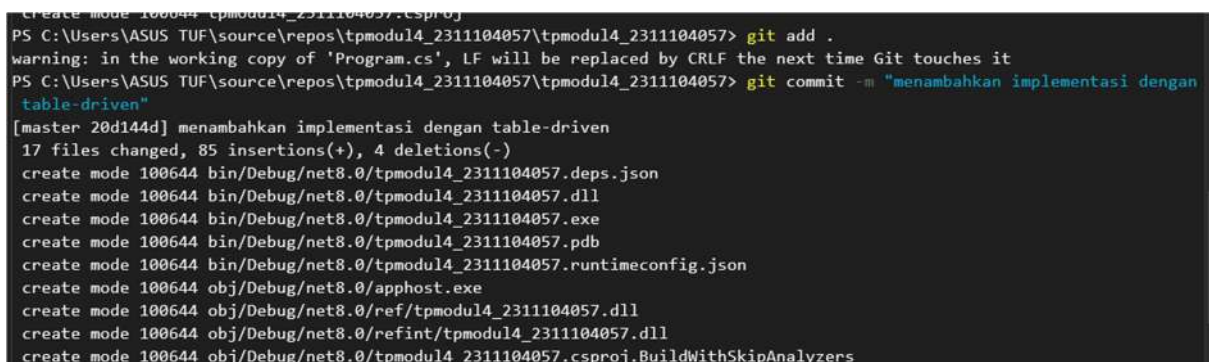
Hasil Run :



```
Microsoft Visual Studio Debug Console
Masukkan kelurahan:
Batununggal
Kode Pos: 40266

C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057\bin\Debug\net8.0\tpmodul4_2311104057.exe (process 19984) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

#### 4.Commit kedua



```
Create mode 100644 tpmodul4_2311104057.csproj
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git add .
warning: in the working copy of 'Program.cs', LF will be replaced by CRLF the next time Git touches it
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git commit -m "menambahkan implementasi dengan table-driven"
[master 20d144d] menambahkan implementasi dengan table-driven
17 files changed, 85 insertions(+), 4 deletions(-)
create mode 100644 bin/Debug/net8.0/tpmodul4_2311104057.deps.json
create mode 100644 bin/Debug/net8.0/tpmodul4_2311104057.dll
create mode 100644 bin/Debug/net8.0/tpmodul4_2311104057.exe
create mode 100644 bin/Debug/net8.0/tpmodul4_2311104057.pdb
create mode 100644 bin/Debug/net8.0/tpmodul4_2311104057.runtimeconfig.json
create mode 100644 obj/Debug/net8.0/apphost.exe
create mode 100644 obj/Debug/net8.0/ref/tpmodul4_2311104057.dll
create mode 100644 obj/Debug/net8.0/refint/tpmodul4_2311104057.dll
create mode 100644 obj/Debug/net8.0/tpmodul4_2311104057.csproj.BuildWithSkipAnalyzers
```

#### 5. State-Based Construction

```

1 reference
24  class DoorMachine
25  {
26      4 references
27      private enum State { Locked, Unlocked }
28      private State currentState;
29
30      0 references
31      public DoorMachine()
32      {
33          currentState = State.Locked;
34          Console.WriteLine("Pintu terkunci");
35      }
36
37      0 references
38      public void Unlock()
39      {
40          currentState = State.Unlocked;
41          Console.WriteLine("Pintu tidak terkunci");
42      }
43
44      0 references
45      public void Lock()
46      {
47          currentState = State.Locked;
48          Console.WriteLine("Pintu terkunci");
49      }
50  }

```

```

0 references
class Program
{
    0 references
    static void Main()
    {
        // Table-driven approach
        Console.WriteLine("Masukkan kelurahan: ");
        string kelurahan = Console.ReadLine();
        Console.WriteLine("Kode Pos: " + KodePos.GetKodePos(kelurahan));

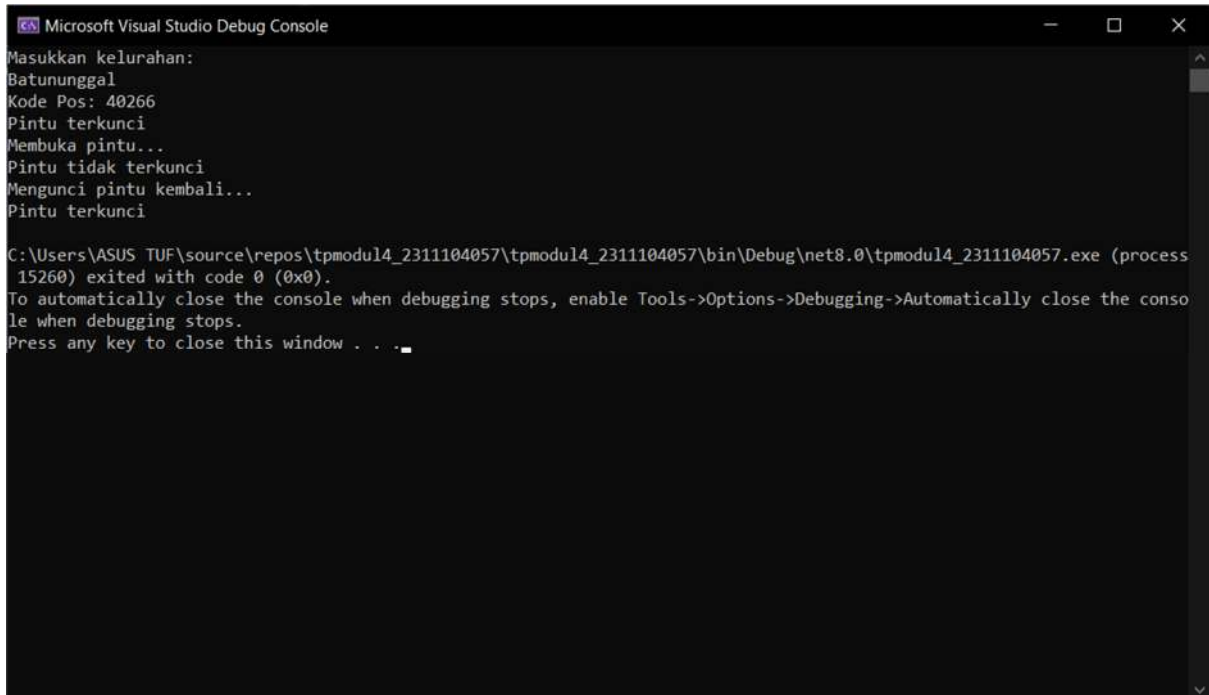
        // State-based construction
        DoorMachine door = new DoorMachine();
        Console.WriteLine("Membuka pintu...");
        door.Unlock();
        Console.WriteLine("Mengunci pintu kembali...");
        door.Lock();
    }
}

```

- Menggunakan enum State { Locked, Unlocked } untuk merepresentasikan kondisi pintu.
- Saat objek DoorMachine dibuat, pintu dalam keadaan terkunci dan menampilkan pesan "Pintu terkunci".
- Method Unlock() mengubah state menjadi terbuka dan menampilkan "Pintu tidak terkunci".

- Method Lock() mengubah state kembali menjadi terkunci dan menampilkan "Pintu terkunci".

Hasil Run :



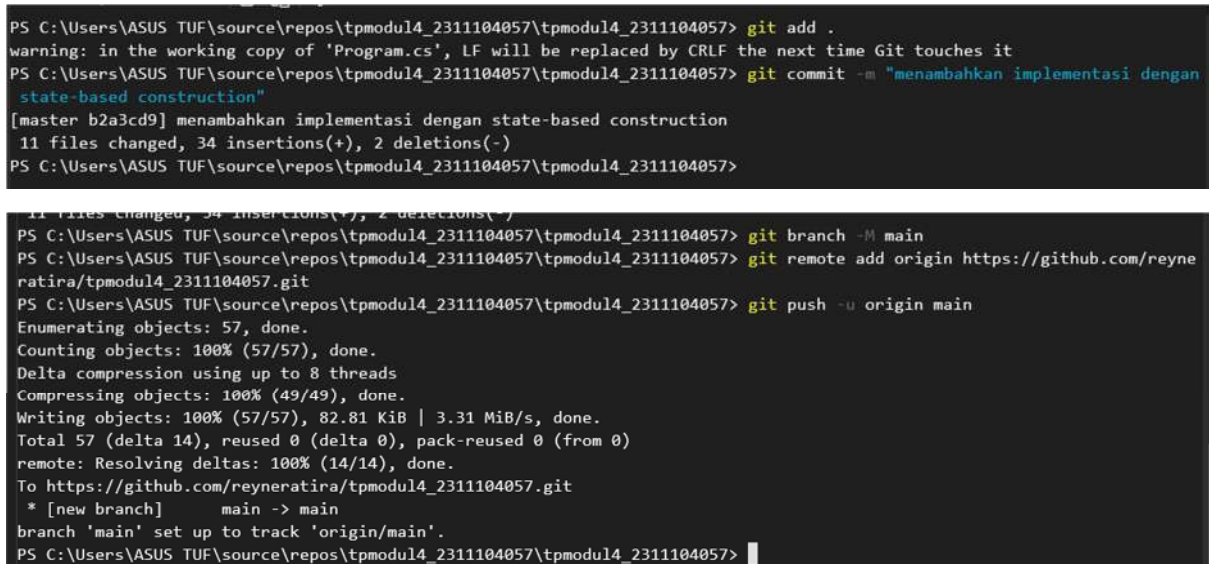
```

Microsoft Visual Studio Debug Console
Masukkan kelurahan:
Batununggal
Kode Pos: 40266
Pintu terkunci
Membuka pintu...
Pintu tidak terkunci
Mengunci pintu kembali...
Pintu terkunci

C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057\bin\Debug\net8.0\tpmodul4_2311104057.exe (process 15260) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .

```

## 6. Commit ketiga dan push



```

PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git add .
warning: in the working copy of 'Program.cs', LF will be replaced by CRLF the next time Git touches it
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git commit -m "menambahkan implementasi dengan state-based construction"
[master b2a3cd9] menambahkan implementasi dengan state-based construction
11 files changed, 34 insertions(+), 2 deletions(-)
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057>

11 files changed, 34 insertions(+), 2 deletions(-)
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git branch -M main
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git remote add origin https://github.com/reyn
ratora/tpmodul4_2311104057.git
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057> git push -u origin main
Enumerating objects: 57, done.
Counting objects: 100% (57/57), done.
Delta compression using up to 8 threads
Compressing objects: 100% (49/49), done.
Writing objects: 100% (57/57), 82.81 KiB | 3.31 MiB/s, done.
Total 57 (delta 14), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (14/14), done.
To https://github.com/reynratora/tpmodul4_2311104057.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
PS C:\Users\ASUS TUF\source\repos\tpmodul4_2311104057\tpmodul4_2311104057>

```

Link : [https://github.com/reynratora/tpmodul4\\_2311104057](https://github.com/reynratora/tpmodul4_2311104057)