Jurnal Modul 5
Konstruksi Perangkat Lunak
PRODI REKAYASA PERANGKAT LUNAK
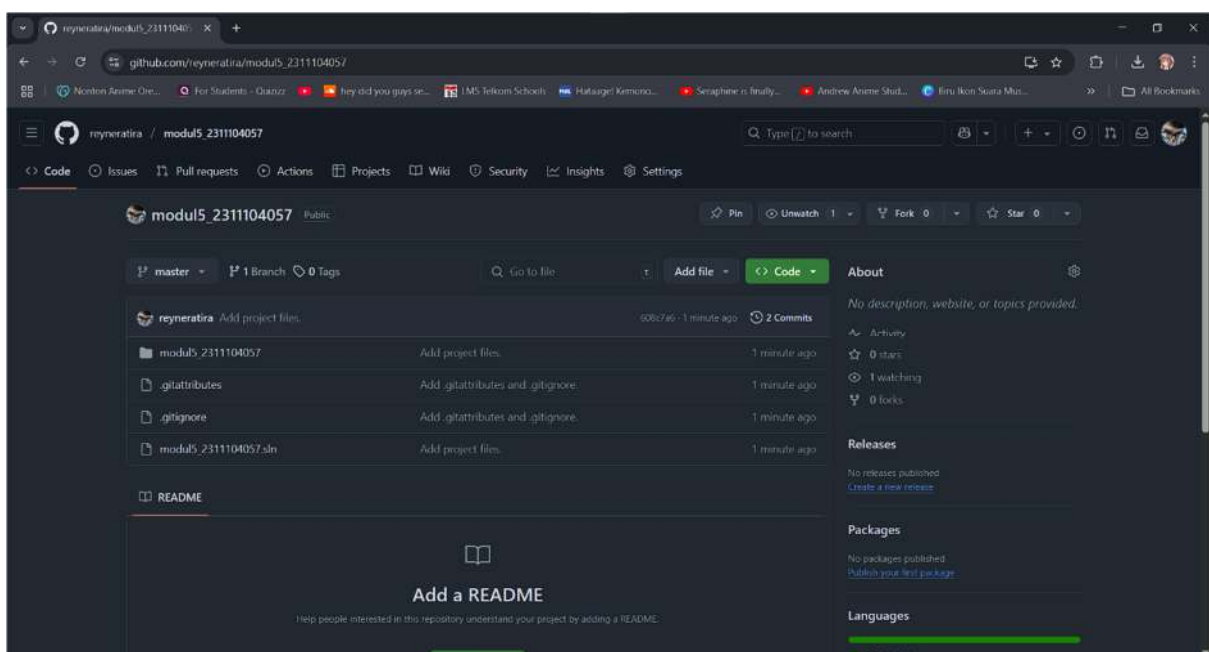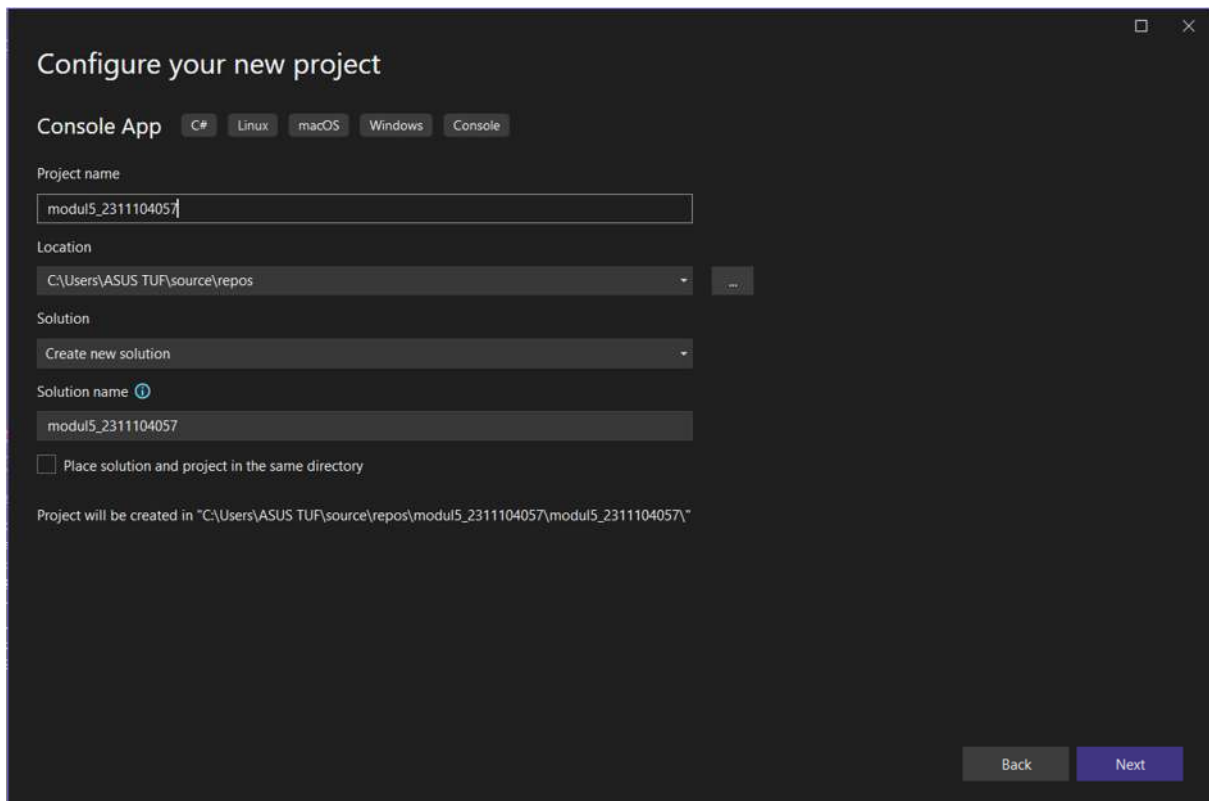
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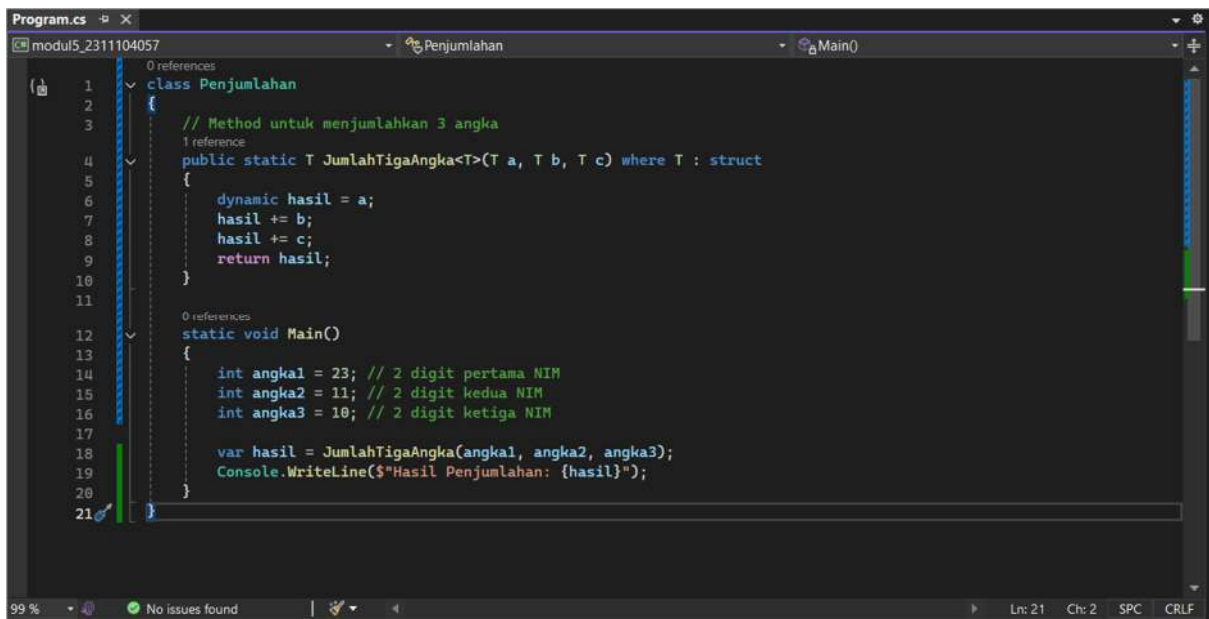**PURWOKERTO**

Jurnal Modul 5

1. Github repo dan local repo

Link : https://github.com/reyneratira/modul5_2311104057

2. Membuat branch baru (implementasi-generic-method)

3. Generic Method


```csharp
class Penjumlahan
{
    // Method untuk menjumlahkan 3 angka
    public static T JumlahTigaAngka<T>(T a, T b, T c) where T : struct
    {
        dynamic hasil = a;
        hasil += b;
        hasil += c;
        return hasil;
    }

    static void Main()
    {
        int angka1 = 23; // 2 digit pertama NIM
        int angka2 = 11; // 2 digit kedua NIM
        int angka3 = 10; // 2 digit ketiga NIM

        var hasil = JumlahTigaAngka(angka1, angka2, angka3);
        Console.WriteLine($"Hasil Penjumlahan: {hasil}");
    }
}
```
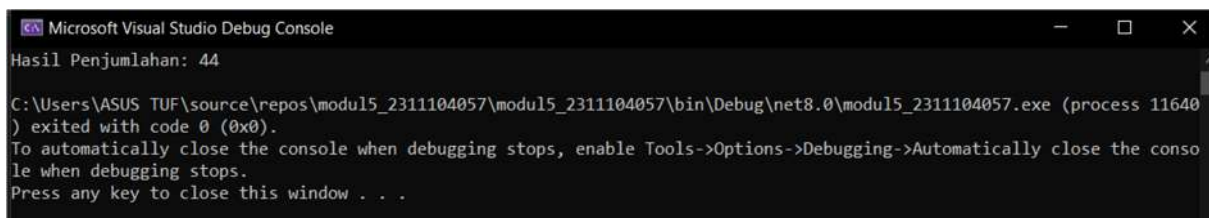
Penjelasan :

Method JumlahTigaAngka<T>:

- Menggunakan generik (T) agar bisa menerima berbagai tipe angka.
- Menggunakan dynamic agar bisa melakukan operasi penjumlahan tanpa kesalahan tipe data.
- Constraint where T : struct memastikan hanya tipe data angka (bukan class seperti string).

Method Main():

- Mengambil 3 angka dari NIM (23, 11, 10).
- Memanggil JumlahTigaAngka() dengan tipe data int.
- Mencetak hasilnya ke konsol.

Hasil Run :


```
Hasil Penjumlahan: 44

C:\Users\ASUS TUF\source\repos\modul5_2311104057\modul5_2311104057\bin\Debug\net8.0\modul5_2311104057.exe (process 11640
) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

4. Git commit dan push

5. Membuat branch baru (implementasi-generic-class)

- Kelas SimpleDataBase<T> ini menggunakan generics untuk menyimpan berbagai tipe data dalam storedData.
- Setiap kali data ditambahkan melalui AddNewData, waktu saat itu dicatat dalam inputDates.
- Metode PrintAllData mencetak semua data beserta waktu penyimpanannya dalam format UTC.
- Fungsi Main menambahkan tiga angka sesuai instruksi dan memanggil PrintAllData().

Hasil Run :

Data 1 berisi: 23, yang disimpan pada waktu UTC: 20/03/2025 14:59:37
Data 2 berisi: 11, yang disimpan pada waktu UTC: 20/03/2025 14:59:37
Data 3 berisi: 10, yang disimpan pada waktu UTC: 20/03/2025 14:59:37

C:\Users\ASUS TUF\source\repos\modul5_2311104057\modul5_2311104057\bin\Debug\net8.0\modul5_2311104057.exe (process 22356
) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .

6. Git commit dan push


```
branch 'implementasi-generic-class' set up to track 'origin/implementasi-generic-class'.
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git merge implementasi-generic-method
Updating 608c7a6..97b91aa
Fast-forward
 modul5_2311104057/Program.cs | 23 +++++++++++++++++++++--
 1 file changed, 21 insertions(+), 2 deletions(-)
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git merge implementasi-generic-class
Auto-merging modul5_2311104057/Program.cs
CONFLICT (content): Merge conflict in modul5_2311104057/Program.cs
Automatic merge failed; fix conflicts and then commit the result.
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057>
```
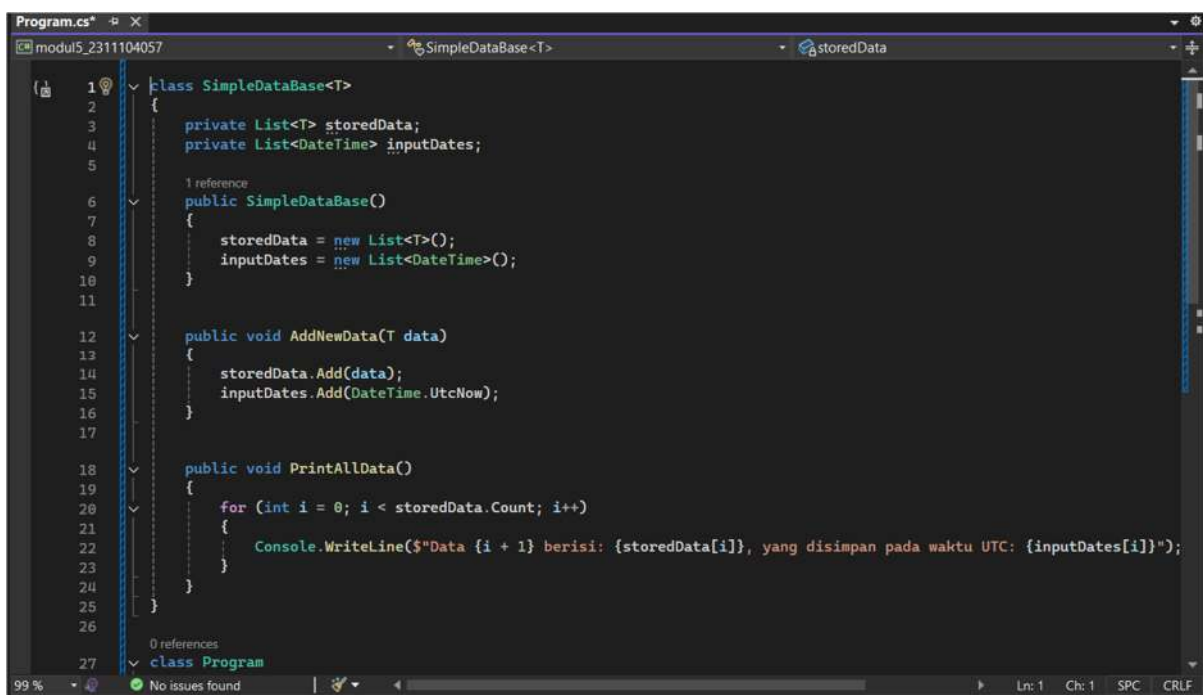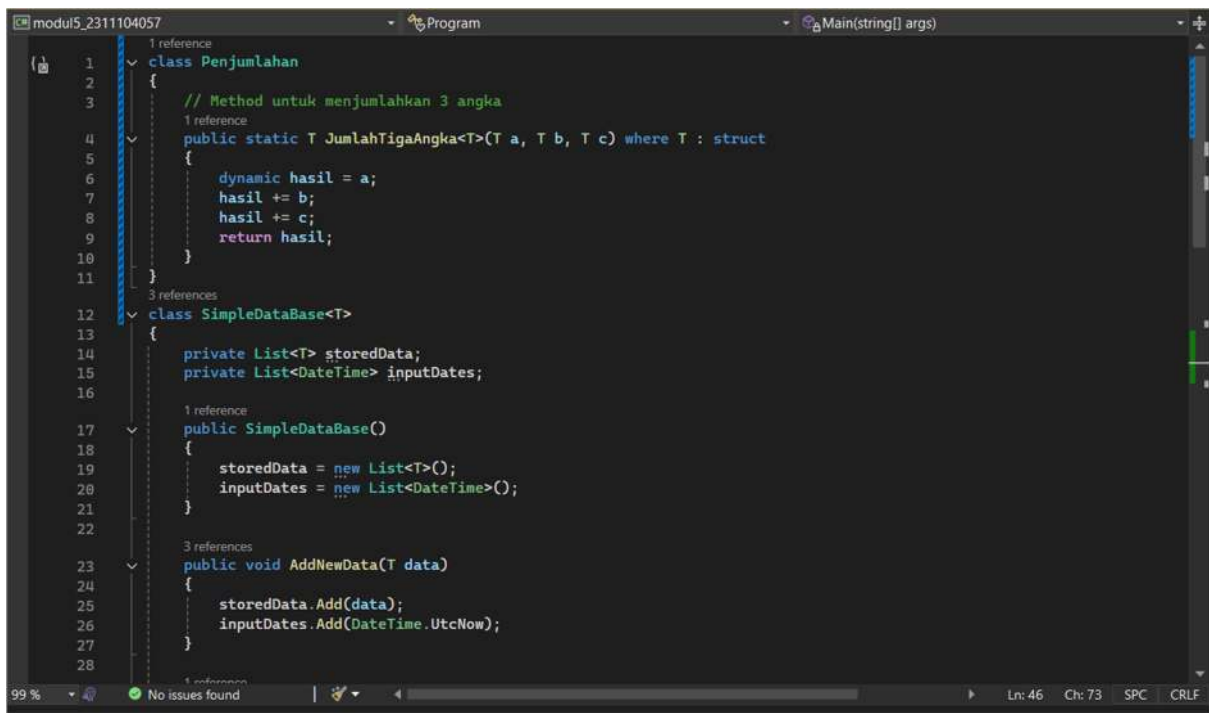
Manual edit


```
class Penjumlahan
{
    // Method untuk menjumlahkan 3 angka
    1 reference
    public static T JumlahTigaAngka<T>(T a, T b, T c) where T : struct
    {
        dynamic hasil = a;
        hasil += b;
        hasil += c;
        return hasil;
    }
}
3 references
class SimpleDataBase<T>
{
    private List<T> storedData;
    private List<DateTime> inputDates;

    1 reference
    public SimpleDataBase()
    {
        storedData = new List<T>();
        inputDates = new List<DateTime>();
    }

    3 references
    public void AddNewData(T data)
    {
        storedData.Add(data);
        inputDates.Add(DateTime.UtcNow);
    }
```

```
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git add .
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git commit -m "Merged Penjumlahan and SimpleDataBase classes"
[master 647e22b] Merged Penjumlahan and SimpleDataBase classes
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057> git push origin -u master
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 707 bytes | 707.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/reyneratira/modul5_2311104057.git
   608c7a6..647e22b  master -> master
branch 'master' set up to track 'origin/master'.
PS C:\Users\ASUS TUF\source\repos\modul5_2311104057>
```