

**TUGAS JURNAL
MODUL 5**



Disusun Oleh :

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Kelas :

SE-07-02

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2025**

I. Link Github

- https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git

II. Hasil Running

implementasi-generic-method

```
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git add .

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git commit -m "Initial commit"
[master 53199b7] Initial commit
6 files changed, 15 insertions(+), 15 deletions(-)

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git remote add origin https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git
error: remote origin already exists.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git remote add origin https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git
error: remote origin already exists.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git push -u origin master
Enumerating objects: 21, done.
Counting objects: 100% (21/21), done.
Delta compression using up to 4 threads
Compressing objects: 100% (10/10), done.
Writing objects: 100% (11/11), 1.02 KiB | 1.02 MiB/s, done.
Total 11 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (8/8), completed with 8 local objects.
To https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git
9a43a0c..53199b7 master -> master
branch 'master' set up to track 'origin/master'.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git checkout -b implementasi-generic-method
Switched to a new branch 'implementasi-generic-method'
```

```
Microsoft Visual Studio Debu X + v - □ ×
Hasil Penjumlahan: 102

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052\bin\Debug\net8.0\TJMODUL5_2311104052.exe (process 20128) 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 . . .|
```

Implementasi Generic Class

```
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git checkout -b implementasi-generic-class
Switched to a new branch 'implementasi-generic-class'
```

```
Microsoft Visual Studio Debu X + v - □ × lement
Data 1 berisi: 10, yang disimpan pada waktu UTC: 20/03/2025 13:51:46
Data 2 berisi: 40, yang disimpan pada waktu UTC: 20/03/2025 13:51:46
Data 3 berisi: 52, yang disimpan pada waktu UTC: 20/03/2025 13:51:46

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052\bin\Debug\net8.0\TJMODUL5_2311104052.exe (process 18872) 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 . . .|
```

```
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052>git add .

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git commit -m "Menambahkan cla
ss SimpleDataBase"
[Implementasi-generic-class 096e227] Menambahkan class SimpleDataBase
18 files changed, 104 insertions(+), 4 deletions(-)
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.deps.json
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.dll
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.exe
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.pdb
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.runtimeconfig.json
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.csproj.BuildWithSkipAnalyzers
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.csproj.CoreCompileInputs.cache
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.csproj.FileListAbsolute.txt
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.dll
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.genruntimeconfig.cache
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.pdb
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.sourcelink.json
create mode 100644 obj/Debug/net8.0/apphost.exe
create mode 100644 obj/Debug/net8.0/ref/TJMODUL5_2311104052.dll
create mode 100644 obj/Debug/net8.0/refint/TJMODUL5_2311104052.dll

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git push origin implementasi-g
eneric-class
fatal: unable to access 'https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git/': Failed to connect to github.com port 443 after 21127 ms: Could
not connect to server

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git push origin implementasi-g
eneric-class
fatal: unable to access 'https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git/': Failed to connect to github.com port 443 after 21054 ms: Could
not connect to server

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git push origin implementasi-g
eneric-class
```

menyelesaikan conflict

```
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git merge implementasi-generic
-method
Updating 53199b7..2cc337d
Fast-forward
 Program.cs | 30 ++++++++
 bin/Debug/net8.0/TJMODUL5_2311104052.deps.json | 23 ++++++++
 bin/Debug/net8.0/TJMODUL5_2311104052.dll | Bin 0 -> 6656 bytes
 bin/Debug/net8.0/TJMODUL5_2311104052.exe | Bin 0 -> 139264 bytes
 bin/Debug/net8.0/TJMODUL5_2311104052.pdb | Bin 0 -> 11152 bytes
 .../net8.0/TJMODUL5_2311104052.runtimeconfig.json | 12 +++++
 ...MODUL5_2311104052.csproj.BuildWithSkipAnalyzers | 0
 ...ODUL5_2311104052.csproj.CoreCompileInputs.cache | 1 +
 ...TJMODUL5_2311104052.csproj.FileListAbsolute.txt | 15 ++++++++
 obj/Debug/net8.0/TJMODUL5_2311104052.dll | Bin 0 -> 6656 bytes
 .../TJMODUL5_2311104052.genruntimeconfig.cache | 1 +
 obj/Debug/net8.0/TJMODUL5_2311104052.pdb | Bin 0 -> 11152 bytes
 .../net8.0/TJMODUL5_2311104052.sourcelink.json | 1 +
 .../net8.0/TJModul5_2311104052.AssemblyInfo.cs | 2 +-
 .../TJModul5_2311104052.AssemblyInfoInputs.cache | 2 +-
 obj/Debug/net8.0/apphost.exe | Bin 0 -> 139264 bytes
 obj/Debug/net8.0/ref/TJMODUL5_2311104052.dll | Bin 0 -> 6144 bytes
 obj/Debug/net8.0/refint/TJMODUL5_2311104052.dll | Bin 0 -> 6144 bytes
18 files changed, 83 insertions(+), 4 deletions(-)
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.deps.json
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.dll
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.exe
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.pdb
create mode 100644 bin/Debug/net8.0/TJMODUL5_2311104052.runtimeconfig.json
create mode 100644 obj/Debug/net8.0/TJMODUL5_2311104052.csproj.BuildWithSkipAnalyzers
```

```
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git merge implementasi-generi
-class
Auto-merging Program.cs
CONFLICT (content): Merge conflict in Program.cs
warning: Cannot merge binary files: bin/Debug/net8.0/TJMODUL5_2311104052.dll (HEAD vs. implementasi-generic-class)
Auto-merging bin/Debug/net8.0/TJMODUL5_2311104052.dll
CONFLICT (add/add): Merge conflict in bin/Debug/net8.0/TJMODUL5_2311104052.dll
warning: Cannot merge binary files: bin/Debug/net8.0/TJMODUL5_2311104052.pdb (HEAD vs. implementasi-generic-class)
Auto-merging bin/Debug/net8.0/TJMODUL5_2311104052.pdb
CONFLICT (add/add): Merge conflict in bin/Debug/net8.0/TJMODUL5_2311104052.pdb
Auto-merging obj/Debug/net8.0/TJMODUL5_2311104052.csproj.FileListAbsolute.txt
CONFLICT (add/add): Merge conflict in obj/Debug/net8.0/TJMODUL5_2311104052.csproj.FileListAbsolute.txt
warning: Cannot merge binary files: obj/Debug/net8.0/TJMODUL5_2311104052.dll (HEAD vs. implementasi-generic-class)
Auto-merging obj/Debug/net8.0/TJMODUL5_2311104052.dll
CONFLICT (add/add): Merge conflict in obj/Debug/net8.0/TJMODUL5_2311104052.dll
warning: Cannot merge binary files: obj/Debug/net8.0/TJMODUL5_2311104052.pdb (HEAD vs. implementasi-generic-class)
Auto-merging obj/Debug/net8.0/TJMODUL5_2311104052.pdb
CONFLICT (add/add): Merge conflict in obj/Debug/net8.0/TJMODUL5_2311104052.pdb
warning: Cannot merge binary files: obj/Debug/net8.0/ref/TJMODUL5_2311104052.dll (HEAD vs. implementasi-generic-class)
Auto-merging obj/Debug/net8.0/ref/TJMODUL5_2311104052.dll
CONFLICT (add/add): Merge conflict in obj/Debug/net8.0/ref/TJMODUL5_2311104052.dll
warning: Cannot merge binary files: obj/Debug/net8.0/refint/TJMODUL5_2311104052.dll (HEAD vs. implementasi-generic-class)
Auto-merging obj/Debug/net8.0/refint/TJMODUL5_2311104052.dll
CONFLICT (add/add): Merge conflict in obj/Debug/net8.0/refint/TJMODUL5_2311104052.dll
Automatic merge failed; fix conflicts and then commit the result.

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_SISE-07-02\05_Generics\TJModul5_2311104052\TJModul5_2311104052>git push origin master
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Izzaaaaaaaaa/TJModul5_2311104052.git
  53199b7..2cc337d master => master
```

```
Program.cs  X
C# T1MODUL5_2311104052 Program
1 using System;
2 using System.Collections.Generic;
3
4 class SimpleDataBase<T>
5 {
6     private List<T> storedData;
7     private List<DateTime> inputDates;
8
9     1 reference
10    public SimpleDataBase()
11    {
12        storedData = new List<T>();
13        inputDates = new List<DateTime>();
14    }
15
16    3 references
17    public void AddNewData(T data)
18    {
19        storedData.Add(data);
20        inputDates.Add(DateTime.UtcNow);
21    }
22
23    1 reference
24    public void PrintAllData()
25    {
26        for (int i = 0; i < storedData.Count; i++)
27        {
28            Console.WriteLine($"Data {i + 1} berisi: {storedData[i]}, yang disimpan pada waktu UTC: {inputDates[i]}");
29        }
30    }
31
32    1 reference
33    class Program
34    {
35        0 references
36        static void Main()
37        {
38            // Ganti dengan dua digit dari NIM
39            int angka1 = 10;
40            int angka2 = 40;
41            int angka3 = 52;
42        }
43    }
44 }
```

```
Program.cs  X
C# T1MODUL5_2311104052 Program
35 int angka2 = 40;
36 int angka3 = 52;
37
38 // Buat objek SimpleDataBase
39 SimpleDataBase<int> database = new SimpleDataBase<int>();
40
41 // Tambahkan data
42 database.AddNewData(angka1);
43 database.AddNewData(angka2);
44 database.AddNewData(angka3);
45
46 // Cetak hasil
47 database.PrintAllData();
48
49 }
50 using System;
51
52 1 reference
53 class Penjumlahan
54 {
55     1 reference
56     public static T JumlahTigaAngka<T>(T a, T b, T c)
57     {
58         dynamic x = a;
59         dynamic y = b;
60         dynamic z = c;
61         return x + y + z;
62     }
63 }
64
65 1 reference
66 class Program
67 {
68     0 references
69     static void Main()
70     {
71         // Ganti dengan dua digit dari NIM
72         int angka1 = 10;
73         int angka2 = 40;
74         int angka3 = 52;
75
76         // Tentukan tipe data berdasarkan digit terakhir NIM
77         var hasil = Penjumlahan.JumlahTigaAngka(angka1, angka2, angka3);
78     }
79 }
```

67 % 3 3

```

C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git add .
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git commit -m "menyelesaikan c
onflict"
[master b814e84] menyelesaikan conflict
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>git push -u origin master
Enumerating objects: 19, done.
Counting objects: 100% (19/19), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (7/7), 960 bytes | 960.00 KiB/s, done.
Total 7 (delta 4), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (4/4), completed with 4 local objects.
To https://github.com/izzaaaaaaaaaa/TJModul5_2311104052.git
 2cc337d..b814e84  master -> master
branch 'master' set up to track 'origin/master'.
C:\Users\ASUS\source\repos\KPL_izzatyzahara_2311104052_S1SE-07-02\05_Generics\TJModul5_2311104052>

```

III. Syntax & Penjelasan Syntax Secara Singkat

using System;

class Penjumlahan

```

{
    public static T JumlahTigaAngka<T>(T a, T b, T c)
    {
        dynamic x = a;
        dynamic y = b;
        dynamic z = c;
        return x + y + z;
    }
}

```

class Program

```

{
    static void Main()
    {
        // Ganti dengan dua digit dari NIM
        int angka1 = 10;
        int angka2 = 40;
        int angka3 = 52;

        // Tentukan tipe data berdasarkan digit terakhir NIM
        var hasil = Penjumlahan.JumlahTigaAngka(angka1, angka2, angka3);
    }
}

```

```
        Console.WriteLine($"Hasil Penjumlahan: {hasil}");  
        Console.ReadLine();  
    }  
}
```

Penjelasan: Program ini menggunakan generic method untuk melakukan penjumlahan tiga angka dengan tipe data yang fleksibel. Kelas Penjumlahan memiliki method `JumlahTigaAngka<T>(T a, T b, T c)`, yang menerima tiga parameter dengan tipe data generik `T`. Di dalam method ini, ketiga parameter dikonversi ke `dynamic` agar bisa dijumlahkan tanpa mempermasalahkan tipe datanya. Pada fungsi `Main()`, program mendeklarasikan tiga angka (10, 40, 52) yang kemudian diproses menggunakan method `JumlahTigaAngka`. Hasilnya ditampilkan di console dengan format "Hasil Penjumlahan: <nilai>". Program ini memungkinkan pemrosesan angka dengan tipe data berbeda tanpa harus menuliskan kode tambahan untuk setiap jenis angka.

```
using System;  
using System.Collections.Generic;  
  
class SimpleDataBase<T>  
{  
    private List<T> storedData;  
    private List<DateTime> inputDates;  
  
    public SimpleDataBase()  
    {  
        storedData = new List<T>();  
        inputDates = new List<DateTime>();  
    }  
  
    public void AddNewData(T data)  
    {  
        storedData.Add(data);  
        inputDates.Add(DateTime.UtcNow);  
    }  
  
    public void PrintAllData()  
    {
```

```

        for (int i = 0; i < storedData.Count; i++)
        {
            Console.WriteLine($"Data {i + 1} berisi: {storedData[i]}, yang
disimpan pada waktu UTC: {inputDates[i]}");
        }
    }
}
class Program
{
    static void Main()
    {
        // Ganti dengan dua digit dari NIM
        int angka1 = 10;
        int angka2 = 40;
        int angka3 = 52;

        // Buat objek SimpleDataBase
        SimpleDataBase<int> database = new SimpleDataBase<int>();

        // Tambahkan data
        database.AddNewData(angka1);
        database.AddNewData(angka2);
        database.AddNewData(angka3);

        // Cetak hasil
        database.PrintAllData();
    }
}

```

Penjelasan: Program ini menggunakan generic class bernama SimpleDataBase<T> untuk menyimpan data dengan tipe yang fleksibel. Kelas ini memiliki dua properti: storedData, yang menyimpan data bertipe List<T>, dan inputDates, yang mencatat waktu penyimpanan menggunakan List<DateTime>. Metode AddNewData(T data) digunakan untuk menambahkan data ke dalam daftar, sekaligus mencatat waktu input secara otomatis. Sedangkan PrintAllData() mencetak semua data beserta waktu penyimpanannya. Di dalam fungsi Main(), program membuat objek SimpleDataBase<int> dan menambahkan tiga angka (10, 40, 52). Setelah itu, program mencetak hasil penyimpanan ke console, menampilkan setiap data dan waktu saat data tersebut dimasukkan.