

TP MODUL 6



Disusun Oleh :

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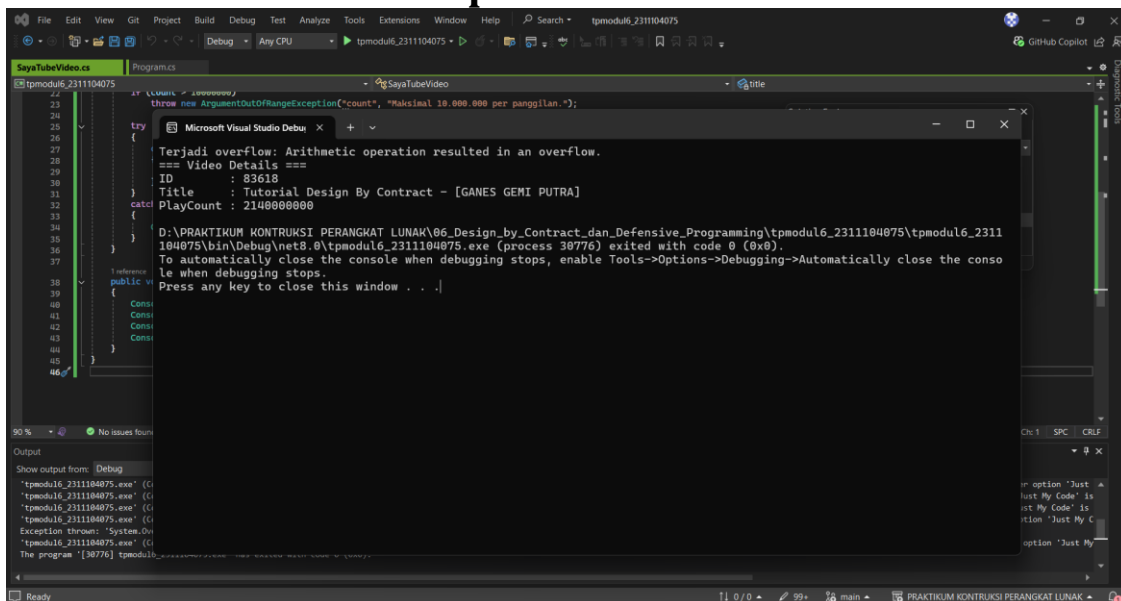
Dosen : YUDHA ISLAMI SULISTYA

**PROGRAM STUDI S1 SOFTWARE ENGINEERING
FAKULTAS INFORMATIKA
TELKOM UNIVERSITY
PURWOKERTO
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Link Repository GitHub :

[https://github.com/GANES2/KPL_GANESGEMIPUTRA_2311104075_SE-07-02/tree/main/06 Design by Contract dan Defensive Programming/Guided06](https://github.com/GANES2/KPL_GANESGEMIPUTRA_2311104075_SE-07-02/tree/main/06_Design_by_Contract_dan_Defensive_Programming/Guided06)

Screenshot Console Output :



```

Microsoft Visual Studio Debug
Terjadi overflow: Arithmetic operation resulted in an overflow.
=== Video Details ===
ID : 83618
Title : Tutorial Design By Contract - [GANES GEMI PUTRA]
PlayCount : 2148000000
D:\PRAKTIKUM KONTRUKSI PERANGKAT LUNAK\06_Design_by_Contract_dan_Defensive_Programming\tpmodul6_2311104075\tpmodul6_2311104075\bin\Debug\net8.0\tpmodul6_2311104075.exe (process 30776) 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 . . .

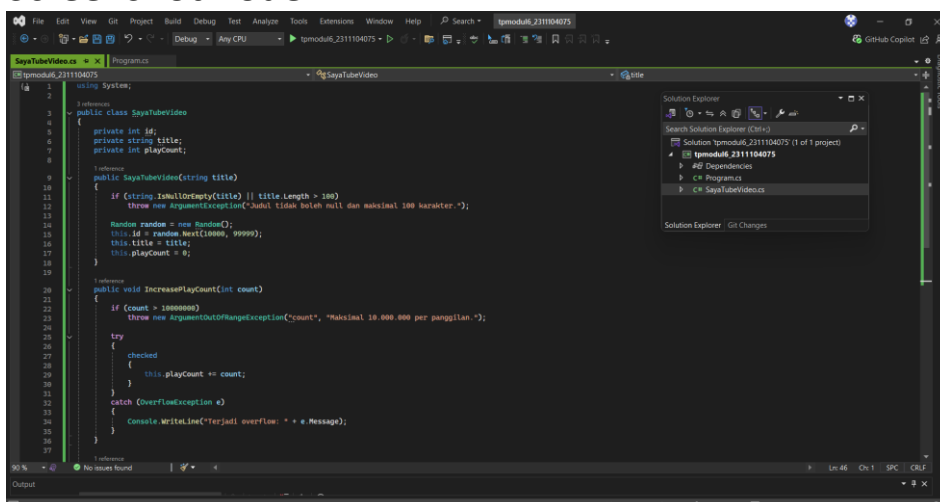
```

"Gambar 1. Output console setelah pengujian Design by Contract dengan overflow."

Penjelasan Singkat Kode :

Kode program dibuat menggunakan bahasa C# berbasis Console App. Class SayaTubeVideo memiliki validasi judul maksimal 100 karakter dan nilai playCount maksimal 10.000.000 per pemanggilan method. Pengujian dilakukan dengan loop untuk memicu OverflowException, yang kemudian ditangani oleh blok try-catch agar program tidak crash.

Screenshot Kode :



```

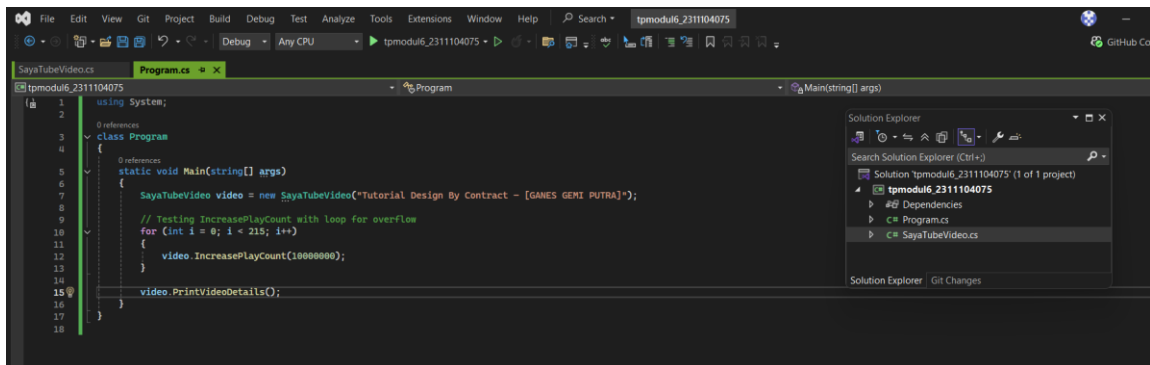
using System;

public class SayaTubeVideo
{
    private int id;
    private string title;
    private int playCount;

    public SayaTubeVideo(string title)
    {
        if (string.IsNullOrEmpty(title) || title.Length > 100)
            throw new ArgumentException("Judul tidak boleh null dan maksimal 100 karakter.");
        Random random = new Random();
        this.id = random.Next(10000, 99999);
        this.title = title;
        this.playCount = 0;
    }

    public void IncreasePlayCount(int count)
    {
        if (count > 10000000)
            throw new ArgumentException("count", "Maksimal 10.000.000 per panggilan.");
        try
        {
            checked
            {
                this.playCount += count;
            }
        }
        catch (OverflowException e)
        {
            Console.WriteLine("Terjadi overflow: " + e.Message);
        }
    }
}

```



```
1 using System;
2
3 class Program
4 {
5     static void Main(string[] args)
6     {
7         SayaTubeVideo video = new SayaTubeVideo("Tutorial Design By Contract - [GAMES GENI PUTRA]");
8
9         // Testing IncreasePlayCount with loop for overflow
10        for (int i = 0; i < 215; i++)
11        {
12            video.IncreasePlayCount(1000000);
13        }
14
15        video.PrintVideoDetails();
16    }
17 }
18
```

Solution Explorer

- Solution 'tpmodul6_2311104075' (1 of 1 project)
- tpmodul6_2311104075
 - Dependencies
 - Program.cs
 - SayaTubeVideo.cs

"Gambar 2. Potongan kode Design by Contract di class SayaTubeVideo."