

Nama: Marvel Sanjaya Setiawan

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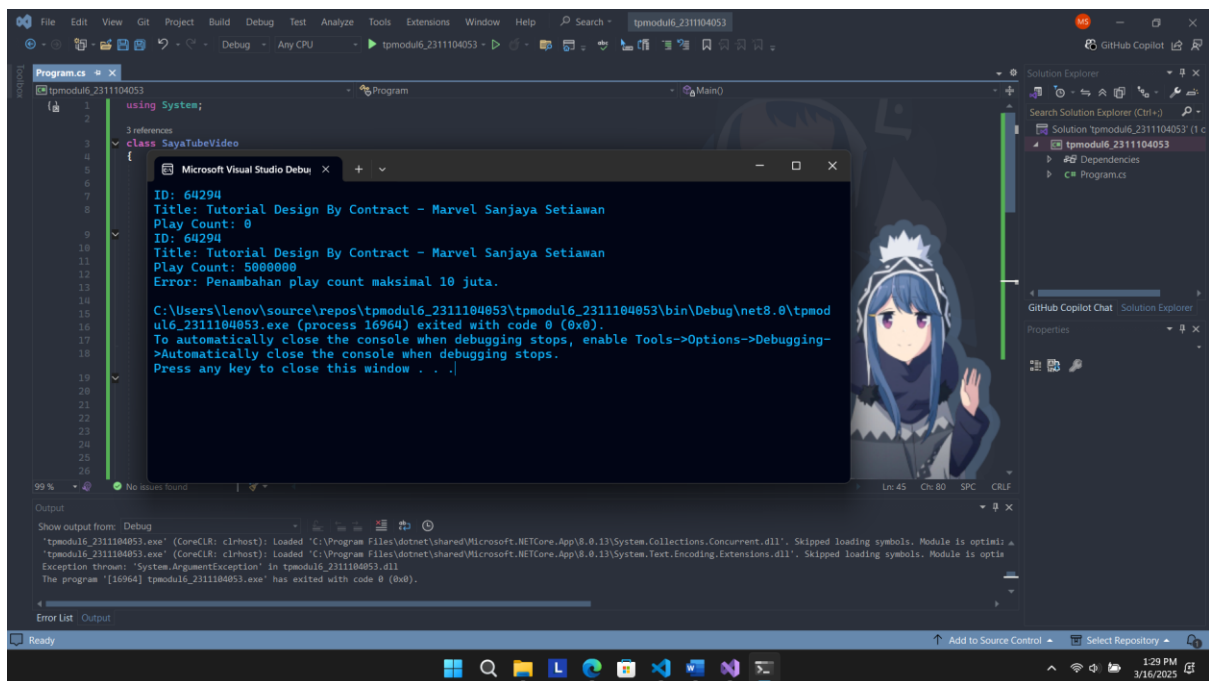
Kelas: SE07-02

## TP MODUL 6

Link github:

[https://github.com/Meph1sto14/KPL\\_Marvel\\_Sanjaya\\_Setiawan\\_2311104053\\_SE07-02/tree/b2cdc5bf2c2d15bd61027027aa80960f9c5c1452/06\\_Design\\_by\\_Contract\\_dan\\_Defensive\\_Programming](https://github.com/Meph1sto14/KPL_Marvel_Sanjaya_Setiawan_2311104053_SE07-02/tree/b2cdc5bf2c2d15bd61027027aa80960f9c5c1452/06_Design_by_Contract_dan_Defensive_Programming)

Hasil Run:



```
1. using System;
2.
3. class SayaTubeVideo
4. {
5.     private int id;
6.     private string title;
7.     private int playCount;
8.
9.     public SayaTubeVideo(string title)
10.    {
11.        if (string.IsNullOrEmpty(title) || title.Length > 100)
12.            throw new ArgumentException("Judul tidak boleh kosong dan maksimal 100
13. karakter.");
14.        this.id = new Random().Next(10000, 99999);
15.        this.title = title;
16.        this.playCount = 0;
17.    }
```

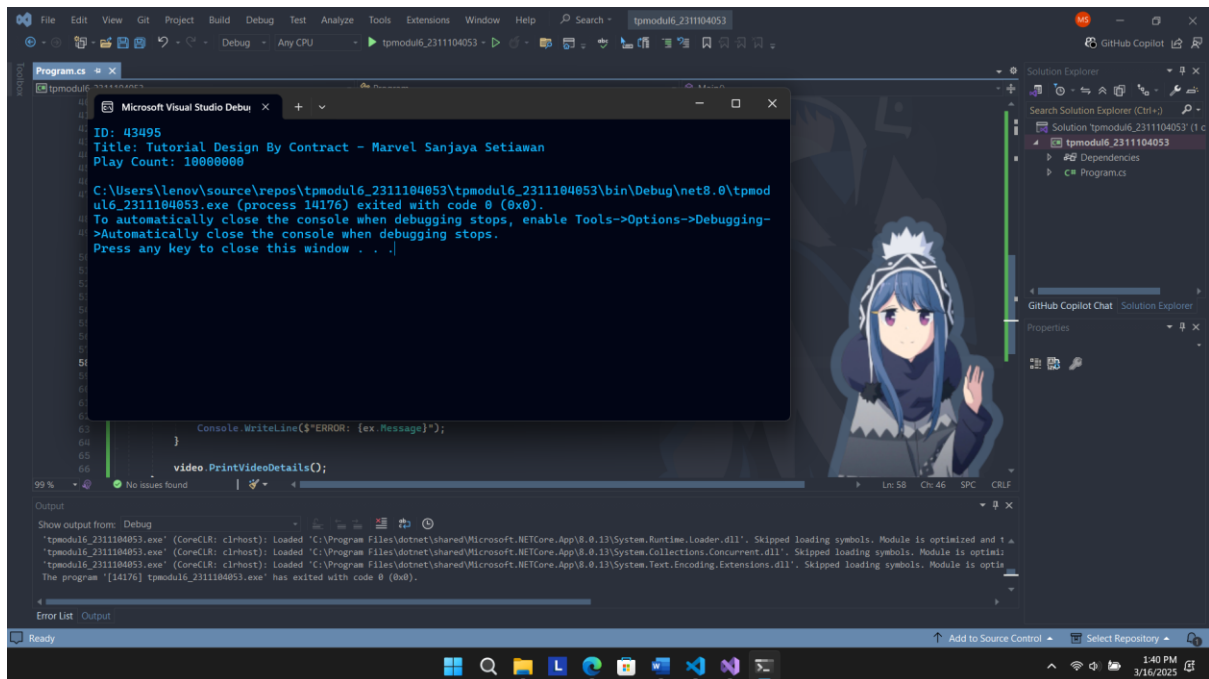
```

18.
19.     public void IncreasePlayCount(int count)
20.     {
21.         if (count > 10000000)
22.             throw new ArgumentException("Penambahan play count maksimal 10 juta.");
23.
24.         checked
25.         {
26.             if (playCount + count < playCount) // Cek overflow
27.                 throw new OverflowException("Play count melebihi batas integer.");
28.
29.             playCount += count;
30.         }
31.     }
32.
33.     public void PrintVideoDetails()
34.     {
35.         Console.WriteLine($"ID: {id}");
36.         Console.WriteLine($"Title: {title}");
37.         Console.WriteLine($"Play Count: {playCount}");
38.     }
39. }
40.
41. class Program
42. {
43.     static void Main()
44.     {
45.         SayaTubeVideo video = new SayaTubeVideo("Tutorial Design By Contract - Marvel
Sanjaya Setiawan");
46.         video.PrintVideoDetails();
47.
48.         try
49.         {
50.             video.IncreasePlayCount(5000000);
51.             video.PrintVideoDetails();
52.
53.             video.IncreasePlayCount(15000000); // Akan menimbulkan error
54.         }
55.         catch (OverflowException e)
56.         {
57.             Console.WriteLine("Overflow Error: " + e.Message);
58.         }
59.         catch (Exception e)
60.         {
61.             Console.WriteLine("Error: " + e.Message);
62.         }
63.     }
64. }
65.

```

- **Konstruktor:** Memastikan judul valid (tidak kosong, <100 karakter) dan menginisialisasi ID acak serta playCount.
- **IncreasePlayCount:** Menambahkan jumlah play dengan batas maksimal 10 juta dan pengecekan overflow.
- **PrintVideoDetails:** Mencetak ID, judul, dan jumlah play.
- **Program:** Membuat objek video, mencetak detailnya, menambah play count, dan menangani error jika terjadi.

## Hasil Run:



```
1. using System;
2. using System.Diagnostics;
3.
4. public class SayaTubeVideo
5. {
6.     private int id;
7.     private string title;
8.     private int playCount;
9.
10.    public SayaTubeVideo(string title)
11.    {
12.        Debug.Assert(!string.IsNullOrEmpty(title) && title.Length <= 100, "Judul video tidak
13.        boleh kosong dan maksimal 100 karakter.");
14.
15.        Random random = new Random();
16.        this.id = random.Next(10000, 99999);
17.        this.title = title;
18.        this.playCount = 0;
19.    }
20.
21.    public void IncreasePlayCount(int count)
22.    {
23.        if (count <= 0 || count > 10000000)
24.        {
25.            throw new ArgumentException("Input play count harus antara 1 hingga
26.            10.000.000.");
27.        }
28.        try
29.        {
30.            checked
31.            {
32.                playCount += count;
33.            }
34.        }
35.        catch (OverflowException)
36.        {
37.            Console.WriteLine("ERROR: Play count melebihi batas integer.");
38.        }
39.    }
40. }
```

```

40.     public void PrintVideoDetails()
41.     {
42.         Console.WriteLine($"ID: {id}");
43.         Console.WriteLine($"Title: {title}");
44.         Console.WriteLine($"Play Count: {playCount}");
45.     }
46. }
47.
48. class Program
49. {
50.     static void Main()
51.     {
52.         SayaTubeVideo video = new SayaTubeVideo("Tutorial Design By Contract - Marvel
Sanjaya Setiawan");
53.
54.         try
55.         {
56.             for (int i = 0; i < 100; i++)
57.             {
58.                 video.IncreasePlayCount(100000);
59.             }
60.         }
61.         catch (ArgumentException ex)
62.         {
63.             Console.WriteLine($"ERROR: {ex.Message}");
64.         }
65.
66.         video.PrintVideoDetails();
67.     }
68. }
69.

```

- **Konstruktor:** Validasi judul, inisialisasi ID acak, dan set playCount ke 0.
- **IncreasePlayCount:** Tambah play count dengan validasi input (1-10 juta) dan cek overflow.
- **PrintVideoDetails:** Cetak ID, judul, dan play count.
- **Program:** Tambah play count dalam loop, tangani error, lalu cetak detail video.