

Marvel Sanjaya Setiawan

2311104053

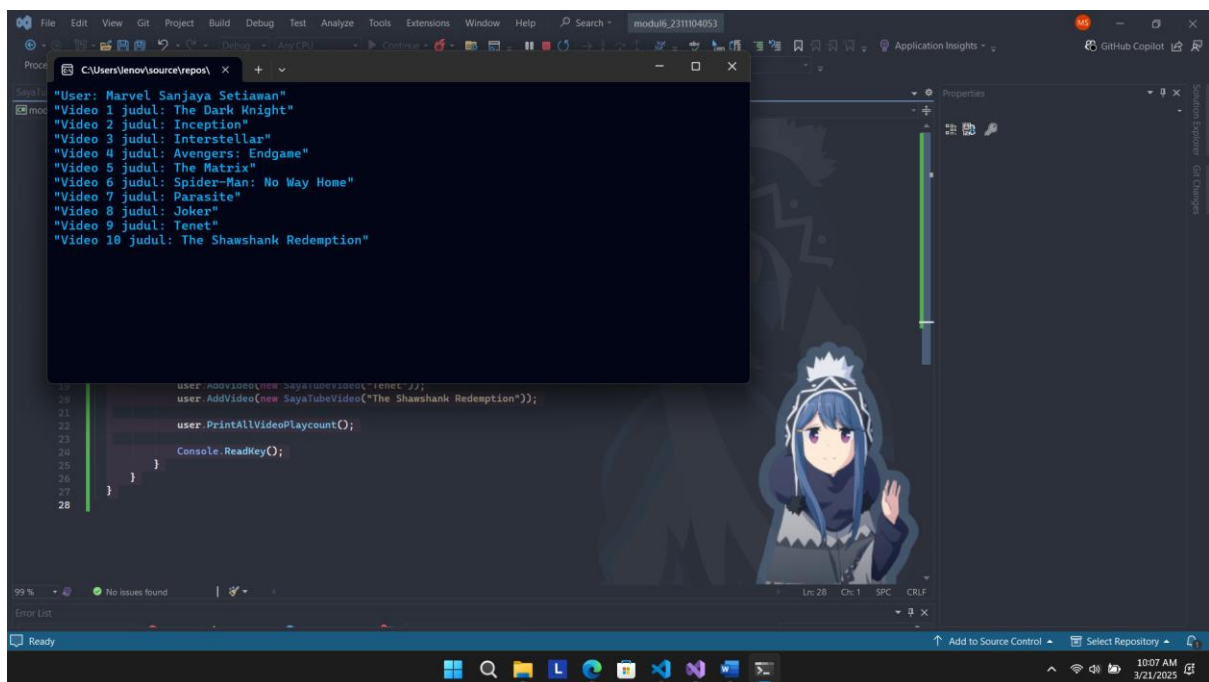
SE07-02

JURNAL MODUL 6

Link github:

https://github.com/Meph1sto14/KPL_Marvel_Sanjaya_Setiawan_2311104053_SE07-02/tree/9ec612b06561ce6981edb84c83d343ad73a569f1/06_Design_by_Contract_dan_Defensive_Programming

Hasil Run:



SayaTubeVideo.cs

```
1. using System;
2.
3. namespace modul6_2311104053
4. {
5.     class SayaTubeVideo
6.     {
7.         private int id;
8.         private string title;
9.         private int playCount;
10.
11.         public SayaTubeVideo(string title)
12.         {
```

```

13.         if (string.IsNullOrEmpty(title) || title.Length > 200)
14.             throw new ArgumentException("Judul video tidak boleh kosong dan maksimal 200
15. karakter.");
16.         Random random = new Random();
17.         this.id = random.Next(10000, 99999);
18.         this.title = title;
19.         this.playCount = 0;
20.     }
21.
22.     public void IncreasePlayCount(int count)
23.     {
24.         if (count < 0 || count > 25000000)
25.             throw new ArgumentException("Play count harus antara 0 dan 25.000.000.");
26.
27.         checked
28.         {
29.             if (playCount + count > int.MaxValue)
30.                 throw new OverflowException("Jumlah play count melebihi batas maksimum
31. integer.");
32.             playCount += count;
33.         }
34.
35.     public void PrintVideoDetails()
36.     {
37.         Console.WriteLine($"ID: {id}");
38.         Console.WriteLine($"Title: {title}");
39.         Console.WriteLine($"Play Count: {playCount}");
40.     }
41.
42.     public int GetPlayCount()
43.     {
44.         return playCount;
45.     }
46.
47.     public string GetTitle()
48.     {
49.         return title;
50.     }
51. }
52. }
53.

```

Penjelasan kodingan:

Kelas SayaTubeVideo merepresentasikan video dengan id, title, dan playCount.

1. **Atribut:** id (acak), title (validasi 200 karakter), playCount (dimulai dari 0).
2. **Metode:** IncreasePlayCount (tambah play count dengan validasi), PrintVideoDetails (tampilkan detail video), GetPlayCount dan GetTitle (ambil data).

SayaTubeUser.cs

```

1. using System;
2. using System.Collections.Generic;
3.
4. namespace modul6_2311104053
5. {
6.     class SayaTubeUser
7.     {
8.         private int id;

```

```

9.     private string username;
10.    private List<SayaTubeVideo> uploadedVideos;
11.
12.    public SayaTubeUser(string username)
13.    {
14.        if (string.IsNullOrEmpty(username) || username.Length > 100)
15.            throw new ArgumentException("Username tidak boleh kosong dan maksimal 100
16. karakter.");
17.
18.        Random random = new Random();
19.        this.id = random.Next(10000, 99999);
20.        this.username = username;
21.        this.uploadedVideos = new List<SayaTubeVideo>();
22.    }
23.
24.    public void AddVideo(SayaTubeVideo video)
25.    {
26.        if (video == null)
27.            throw new ArgumentNullException("Video tidak boleh null.");
28.
29.        uploadedVideos.Add(video);
30.    }
31.
32.    public int GetTotalVideoPlayCount()
33.    {
34.        int total = 0;
35.        foreach (var video in uploadedVideos)
36.        {
37.            total += video.GetPlayCount();
38.        }
39.        return total;
40.    }
41.
42.    public void PrintAllVideoPlaycount()
43.    {
44.        Console.WriteLine($"\"User: {username}\"");
45.        for (int i = 0; i < Math.Min(uploadedVideos.Count, 10); i++)
46.        {
47.            Console.WriteLine($"\"Video {i + 1} judul:
48. {uploadedVideos[i].GetTitle()}\"");
49.        }
50.    }
51. }
52.

```

Penjelasan kodingan:

Kelas SayaTubeUser merepresentasikan pengguna dengan id, username, dan daftar video.

1. **Atribut:** id (acak), username (validasi 100 karakter), uploadedVideos (list video).
2. **Metode:** AddVideo (tambah video), GetTotalVideoPlayCount (total play count), PrintAllVideoPlaycount (tampilkan 10 video pertama).

Program.cs

```

1. using System;
2.
3. namespace modul6_2311104053
4. {
5.     class Program
6.     {

```

```

7.     static void Main(string[] args)
8.     {
9.         SayaTubeUser user = new SayaTubeUser("Marvel Sanjaya Setiawan");
10.
11.         user.AddVideo(new SayaTubeVideo("The Dark Knight"));
12.         user.AddVideo(new SayaTubeVideo("Inception"));
13.         user.AddVideo(new SayaTubeVideo("Interstellar"));
14.         user.AddVideo(new SayaTubeVideo("Avengers: Endgame"));
15.         user.AddVideo(new SayaTubeVideo("The Matrix"));
16.         user.AddVideo(new SayaTubeVideo("Spider-Man: No Way Home"));
17.         user.AddVideo(new SayaTubeVideo("Parasite"));
18.         user.AddVideo(new SayaTubeVideo("Joker"));
19.         user.AddVideo(new SayaTubeVideo("Tenet"));
20.         user.AddVideo(new SayaTubeVideo("The Shawshank Redemption"));
21.
22.         user.PrintAllVideoPlaycount();
23.
24.         Console.ReadKey();
25.     }
26. }
27. }
28.

```

Penjelasan kodingan:

Program ini membuat objek SayaTubeUser dengan nama pengguna "Marvel Sanjaya Setiawan".

1. **Langkah utama:**
 - a. Menambahkan 10 video ke daftar pengguna dengan judul masing-masing.
 - b. Menampilkan hingga 10 video pertama dari daftar menggunakan PrintAllVideoPlaycount.
2. **Akhir:** Program menunggu input pengguna dengan Console.ReadKey() sebelum selesai. Sederhana dan rapi untuk menampilkan daftar video!