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```
1  using System;
2  using System.Diagnostics;
3
4  /// <summary>
5  /// Represents a video on SayaTube
6  /// </summary>
7  public class SayaTubeVideo
8  {
9      private int id;
10     private string title;
11     private int playCount;
12
13     /// <summary>
14     /// Initializes a new instance of the <see cref="SayaTubeVideo"/> class with a specified title.
15     /// </summary>
16     /// <param name="title">The title of the video.</param>
17     public SayaTubeVideo(string title)
18     {
19         Debug.Assert(!string.IsNullOrEmpty(title) && title.Length <= 100,
20             "Title must not be empty and must be at most 100 characters.");
21
22         Random random = new Random();
23         this.id = random.Next(10000, 99999);
24         this.title = title;
25         this.playCount = 0;
26     }
27
28     /// <summary>
29     /// Increases the play count of the video.
30     /// </summary>
31     /// <param name="count">Number of plays to add (1 - 10,000,000).</param>
32     public void IncreasePlayCount(int count)
33     {
34         if (count <= 0 || count > 10_000_000)
35         {
36             throw new ArgumentException("Play count increment must be between 1 and 10,000,000.");
37         }
38
39         try
40         {
41             checked
42             {
43                 this.playCount += count;
44             }
45         }
46         catch (OverflowException)
47         {
48             Console.WriteLine("ERROR: Play count exceeded the maximum value of int.");
49         }
50     }
51
52     /// <summary>
53     /// Prints the video details to the console.
54     /// </summary>
55     public void PrintVideoDetails()
56     {
57         Console.WriteLine($"ID: {this.id}");
58         Console.WriteLine($"Title: {this.title}");
59         Console.WriteLine($"Play Count: {this.playCount}");
60     }
61 }
62
```

```

1  using System;
2
3  /// <summary>
4  /// The main class of the application.
5  /// </summary>
6  internal class Program
7  {
8      private static void Main()
9      {
10         SayaTubeVideo video = new SayaTubeVideo("Tutorial Design by Contract - [Candra Dinata]");
11
12         try
13         {
14             for (int i = 0; i < 100; i++)
15             {
16                 video.IncreasePlayCount(100_000);
17             }
18         }
19         catch (ArgumentException ex)
20         {
21             Console.WriteLine($"ERROR: {ex.Message}");
22         }
23
24         video.PrintVideoDetails();
25     }
26 }
27

```

Penjelasan Refactoring:

1. Naming Convention:

- camelCase untuk field dan variabel lokal (id, title, playCount, video).
- PascalCase untuk class dan method (SayaTubeVideo, IncreasePlayCount, PrintVideoDetails, dll).

2. Whitespace dan Indentation:

- Semua blok kode disusun dengan indentasi 4 spasi.
- Blank line ditambahkan untuk readability antar method.

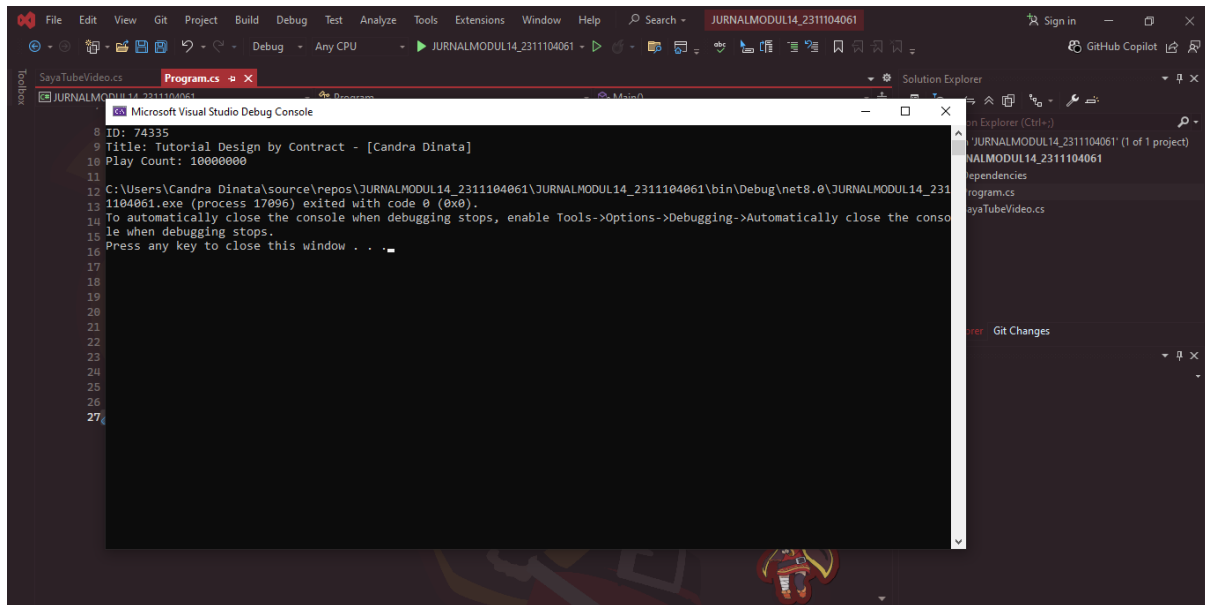
3. Deklarasi Atribut:

- Semua atribut dibuat private dan diberi awalan this untuk kejelasan konteks.

4. Comments:

- Menggunakan format XML Documentation (///) agar dapat dimanfaatkan oleh tool dokumentasi atau IntelliSense di IDE.

Output:



The screenshot shows the Microsoft Visual Studio IDE with a dark theme. The main window displays a C# program named 'Program.cs' with the following code:

```
1 // Say aTubeVideo.cs
2
3 using System;
4
5 namespace JURNALMODUL14_2311104061
6 {
7     class Program
8     {
9         ID: 74335
10        Title: Tutorial Design by Contract - [Candra Dinata]
11        Play Count: 10000000
12
13        static void Main()
14        {
15            Console.WriteLine("Tutorial Design by Contract - [Candra Dinata]");
16            Console.WriteLine("Play Count: 10000000");
17            Console.WriteLine("Press any key to close this window . . .");
18            Console.ReadKey();
19        }
20    }
21 }
```

The 'Microsoft Visual Studio Debug Console' window is open, showing the output of the program:

```
8 ID: 74335
9 Title: Tutorial Design by Contract - [Candra Dinata]
10 Play Count: 10000000
11
12 C:\Users\Candra Dinata\source\repos\JURNALMODUL14_2311104061\JURNALMODUL14_2311104061\bin\Debug\net8.0\JURNALMODUL14_2311104061.exe (process 17095) exited with code 0 (0x0).
13 To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
14 Press any key to close this window . . .
```

The Solution Explorer on the right shows the project structure:

- JURNALMODUL14_2311104061 (1 of 1 project)
 - Dependencies
 - Program.cs
 - SayaTubeVideo.cs