

TUGAS JURNAL
KONSTRUKSI PERANGKAT LUNAK
MODUL VI
DESIGN BY CONTRACT & DEFENSIVE PROGRAMMING



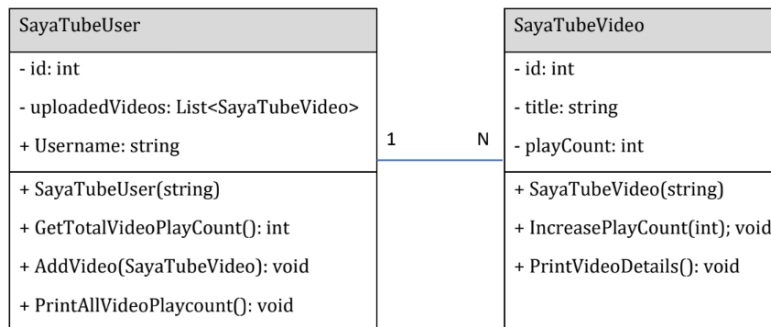
Disusun Oleh:
Lintang Suminar Tyas Wening
2211104009
SE0601
Dosen Pengampu:
Yudha Islami Sulistya, S.Kom., M.Cs.

PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK
FAKULTAS INFORMATIKA
TELKOM UNIVERSITY PURWOKERTO
2025

MENAMBAHKAN KODE AWAL SAYATUBEVIDEO

Buatlah dua file class baru yang berisi detail sebagai berikut:

- A. Class bernama “SayaTubeUser” dan “SayaTubeVideo”.
- B. Struktur dari class tersebut dapat dilihat pada gambar di bawah ini:



Konstruktor pada kelas “SayaTubeVideo” menerima dua parameter yaitu judul video. Pada saat

objek dibuat, nilai “id” akan di-generate secara random sepanjang 5 digit (bisa coba gunakan class

Random bawaan bahasa pemrograman yang digunakan) dan nilai “playCount” akan diisi dengan 0.

D. Pada class “SayaTubeVideo”, tambahkan sebuah method dengan nama “IncreasePlayCount” yang

menerima jumlah angka yang akan ditambahkan ke “playCount”.

E. Class “SayaTubeVideo” juga mempunyai method “PrintVideoDetails” yang melakukan print baik

dari id, title dan playCount dengan format bebas.

F. Konstruktor kelas “SayaTubeUser” mirip dengan kelas “SayaTubeVideo”, bedanya adalah property

Username dan list kosong dari uploadedVideos.

G. Pada kelas “SayaTubeUser”, terdapat method `GetTotalVideoPlayCount()` yang mengembalikan

jumlah playCount dari semua video yang ada di list uploadedVideos. Selain itu, juga terdapat method `AddVideo` yang dapat menambahkan elemen baru ke list uploadedVideos.

H. Method terakhir di kelas tersebut adalah `PrintAllVideoPlaycount()` yang melakukan print terhadap

semua judul video yang ditambahkan dengan format:

“User: <username>”

“Video 1 judul: <judul_video1>”

“Video 2 judul: <judul_video2>”

dst.

I. Panggil semua method yang dibuat dari kedua kelas pada fungsi/method utama dengan membuat.

Gunakan nama panggilan praktikan untuk username dan judul video dengan format “Review Film

<judul_film> oleh <nama_praktikan>”. Tambahkan minimal 10 judul film yang menurut praktikan

bagus untuk ditonton.

Jawab

Membuat file di visual studio 2022

Configure your new project

Console App (.NET Framework) C# Windows Console

Project name
modul6_2211104009

Location
D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601\06_D ...

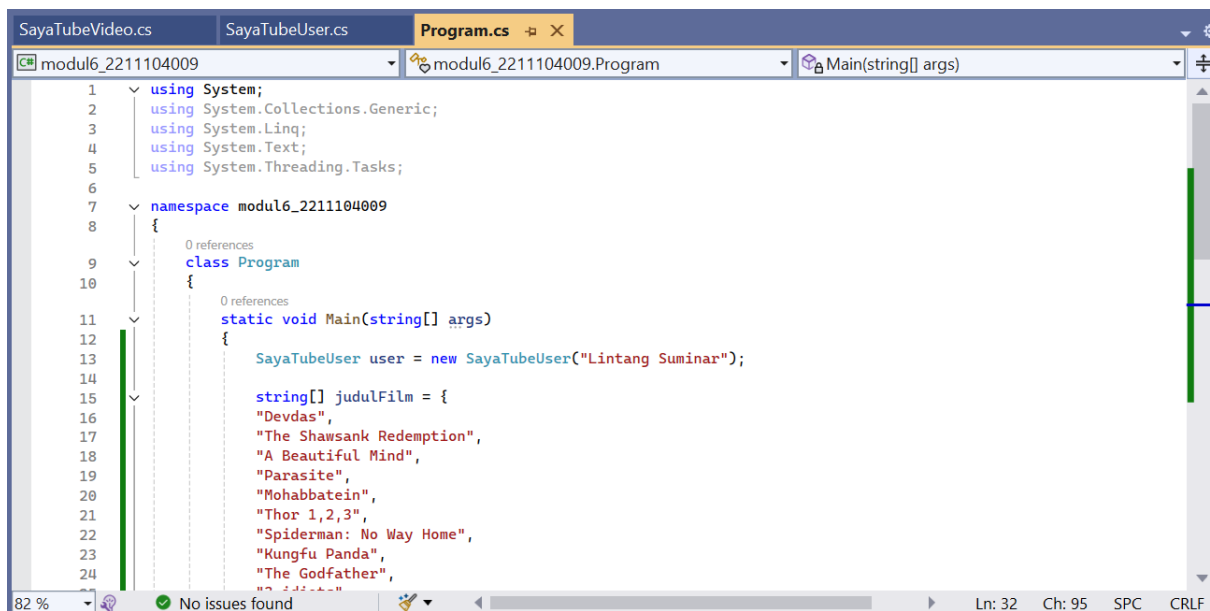
Solution name ⓘ
modul6_2211104009

☒ Place solution and project in the same directory

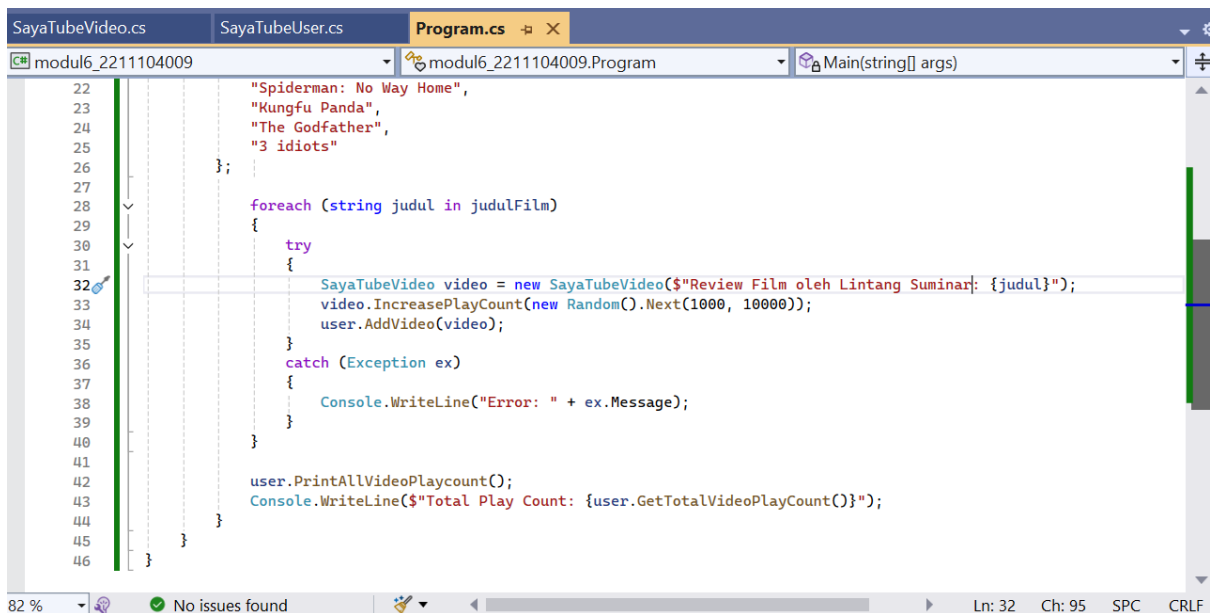
Framework
.NET Framework 4.8

Project will be created in "D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601\06_Design_by_Contract_dan_Defensive_Programming\JURNAL\modul6_2211104009\"

- Hasil Source Code Program.cs

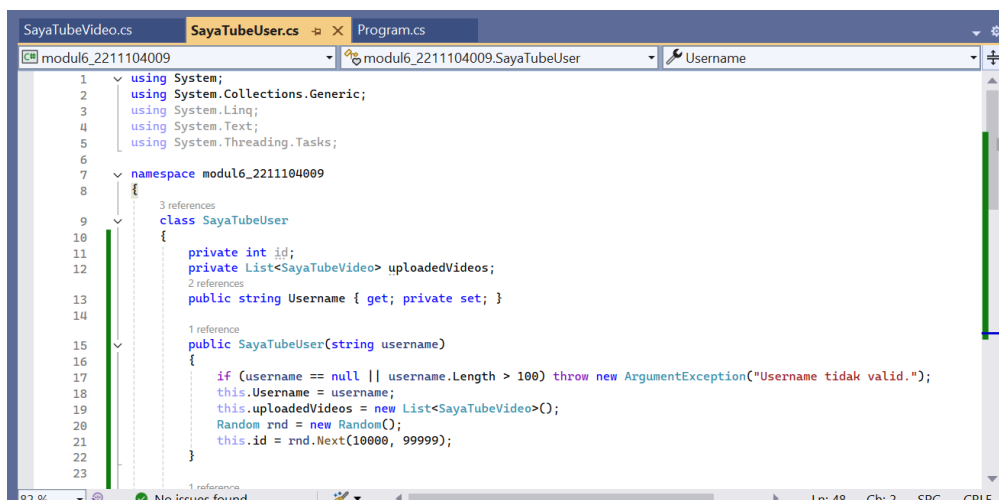


```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     0 references
10    class Program
11    {
12        0 references
13        static void Main(string[] args)
14        {
15            SayaTubeUser user = new SayaTubeUser("Lintang Suminar");
16
17            string[] judulFilm = {
18                "Devdas",
19                "The Shawsank Redemption",
20                "A Beautiful Mind",
21                "Parasite",
22                "Mohabbatein",
23                "Thor 1,2,3",
24                "Spiderman: No Way Home",
25                "Kungfu Panda",
26                "The Godfather",
27                "3 Idiots"
28            };
29
30            foreach (string judul in judulFilm)
31            {
32                try
33                {
34                    SayaTubeVideo video = new SayaTubeVideo($"Review Film oleh Lintang Suminar: {judul}");
35                    video.IncreasePlayCount(new Random().Next(1000, 10000));
36                    user.AddVideo(video);
37                }
38                catch (Exception ex)
39                {
40                    Console.WriteLine("Error: " + ex.Message);
41                }
42            }
43
44            user.PrintAllVideoPlaycount();
45            Console.WriteLine($"Total Play Count: {user.GetTotalVideoPlayCount()}");
46        }
47    }
48 }
```



```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     3 references
10    class SayaTubeUser
11    {
12        private int id;
13        private List<SayaTubeVideo> uploadedVideos;
14        2 references
15        public string Username { get; private set; }
16
17        1 reference
18        public SayaTubeUser(string username)
19        {
20            if (username == null || username.Length > 100) throw new ArgumentException("Username tidak valid.");
21            this.Username = username;
22            this.uploadedVideos = new List<SayaTubeVideo>();
23            Random rnd = new Random();
24            this.id = rnd.Next(10000, 99999);
25        }
26    }
27 }
```

- Hasil Source Code SayaTubeUser.cs



```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     3 references
10    class SayaTubeUser
11    {
12        private int id;
13        private List<SayaTubeVideo> uploadedVideos;
14        2 references
15        public string Username { get; private set; }
16
17        1 reference
18        public SayaTubeUser(string username)
19        {
20            if (username == null || username.Length > 100) throw new ArgumentException("Username tidak valid.");
21            this.Username = username;
22            this.uploadedVideos = new List<SayaTubeVideo>();
23            Random rnd = new Random();
24            this.id = rnd.Next(10000, 99999);
25        }
26    }
27 }
```

```
SayaTubeVideo.cs SayaTubeUser.cs* Program.cs
modul6_2211104009 modul6_2211104009.SayaTubeUser SayaTubeUser(string username)

23 public void AddVideo(SayaTubeVideo video)
24 {
25     if (video == null || video.GetPlayCount() > int.MaxValue)
26         throw new ArgumentException("Video tidak valid.");
27     this.uploadedVideos.Add(video);
28 }
29
30 1 reference
31 public int GetTotalVideoPlayCount()
32 {
33     int total = 0;
34     foreach (var video in uploadedVideos)
35         total += video.GetPlayCount();
36     return total;
37 }
38
39 1 reference
40 public void PrintAllVideoPlaycount()
41 {
42     Console.WriteLine($"User: {Username}");
43     for (int i = 0; i < uploadedVideos.Count && i < 10; i++)
44     {
45         Console.WriteLine($"Video {i + 1} judul: {uploadedVideos[i].GetTitle()}");
46     }
47 }
```

82 % No issues found Ln: 22 Ch: 10 SPC CRLF

- Hasil Source Code SayaTubeVideo.cs

```
SayaTubeVideo.cs SayaTubeUser.cs* Program.cs
modul6_2211104009 modul6_2211104009.SayaTubeVideo title

1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     6 references
10     class SayaTubeVideo
11     {
12         private int id;
13         private string title;
14         private int playCount;
15
16         1 reference
17         public SayaTubeVideo(string title)
18         {
19             if (title == null || title.Length > 200) throw new ArgumentException("Judul tidak valid.");
20             this.title = title;
21             Random rnd = new Random();
22             this.id = rnd.Next(10000, 99999);
23             this.playCount = 0;
24         }
25
26         1 reference
27         public string GetTitle()
28         {
29             return title;
30         }
31     }
32 }
```

82 % No issues found Ln: 41 Ch: 6 SPC CRLF

```

23 1 reference
24 public string GetTitle()
25 {
26     return this.title;
27 }
28
29 1 reference
30 public void IncreasePlayCount(int count)
31 {
32     if (count < 0 || count > 25000000) throw new ArgumentOutOfRangeException("Count tidak valid.");
33     checked { this.playCount += count; }
34 }
35
36 0 references
37 public void PrintVideoDetails()
38 {
39     Console.WriteLine($"ID: {id}, Title: {title}, Play Count: {playCount}");
40 }
41
42 2 references
43 public int GetPlayCount() => playCount;

```

- Hasil Output

```

User: Lintang Suminar
Video 1 judul: Review Film oleh Lintang Suminar: Devdas
Video 2 judul: Review Film oleh Lintang Suminar: The Shawsank Redemption
Video 3 judul: Review Film oleh Lintang Suminar: A Beautiful Mind
Video 4 judul: Review Film oleh Lintang Suminar: Parasite
Video 5 judul: Review Film oleh Lintang Suminar: Mohabbatein
Video 6 judul: Review Film oleh Lintang Suminar: Thor 1,2,3
Video 7 judul: Review Film oleh Lintang Suminar: Spiderman: No Way Home
Video 8 judul: Review Film oleh Lintang Suminar: Kungfu Panda
Video 9 judul: Review Film oleh Lintang Suminar: The Godfather
Video 10 judul: Review Film oleh Lintang Suminar: 3 idiots
Total Play Count: 37020

D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601\06_Design_by_Contract_dan_Defensive_Programming\JURNAL\modul6_2211104009\bin\Debug\modul6_2211104009.exe (process 12624) 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 . . .

```

Saat Melakukan commit dan meninggalkan pesan untuk ke github

```

PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git add .
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git commit -m "menambahkan dua class SayaTubeVideo dan SayaTubeUser"
[main 383b37b] menambahkan dua class SayaTubeVideo dan SayaTubeUser
23 files changed, 414 insertions(+)
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/2da51448-7f9f-42b8-ac8d-84f407d3e914.vsixdx
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/4c28bd72-8e86-4179-b06b-2144c2f71cd6.vsixdx
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/b5467efb-7790-4be3-b41a-ff78f8a571b3.vsixdx
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/v17/.suo
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/v17/DocumentLayout.backup.json
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/v17/DocumentLayout.json
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/App.config
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/Program.cs
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/Properties/AssemblyInfo.cs
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/SayaTubeUser.cs
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/SayaTubeVideo.cs
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/bin/Debug/modul6_2211104009.exe
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/bin/Debug/modul6_2211104009.exe.config
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/bin/Debug/modul6_2211104009.pdb
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/modul6_2211104009.csproj
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/modul6_2211104009.sln
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/.NETFramework,Version=v4.8.AssemblyAttributes.cs
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/DesignTimeResolveAssemblyReferencesInput.cache
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.csproj.AssemblyReference.cache
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.csproj.CoreCompileInputs.cache
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.csproj.FileListAbsolute.txt
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.exe
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.exe.config
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/obj/Debug/modul6_2211104009.pdb
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git push origin main
Enumerating objects: 35, done.
Counting objects: 100% (35/35), done.
Delta compression using up to 8 threads
Compressing objects: 100% (28/28), done.
Writing objects: 100% (33/33), 27.48 KiB | 1.62 MiB/s, done.
Total 33 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/LintangSuminar02/KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601.git
486c642..383b37b main -> main
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601>

```

MELAKUKAN COMMIT KEDUA

Pada branch main/master:

A. Lakukan commit dengan pesan “menambahkan dua class SayaTubeVideo dan SayaTubeUser”.

B. Lakukan push ke github.

MENAMBAHKAN IMPLEMENTASI DESIGN BY CONTRACT

Pada class yang dibuat sebelumnya tambahkan implementasi design by contract dengan:

A. Precondition sebagai berikut ini:

- i. Judul video memiliki panjang maksimal 200 karakter.
- ii. Judul video tidak berupa null.
- iii. Input penambahan play count maksimal 25.000.000 per panggilan method-nya
- iv. Input play count tidak berupa bilangan negatif.
- v. Nama username memiliki panjang maksimal 100 karakter.
- vi. Nama username tidak berupa null.
- vii. Video yang ditambahkan tidak berupa null.
- viii. Video yang ditambahkan punya playCount yang kurang dari bilangan integer maksimum.

B. Exception (tambahkan juga blok try-catch sehingga program tidak berhenti):

- i. Dengan menggunakan “checked” keyword pada C# atau operator sepadan pada bahasa pemrograman lain, pastikan jumlah penambahan play count tidak melebihi batas tertinggi integer (overflow).

C. Postcondition sebagai berikut:

- i. Jumlah video maksimal yang di-print adalah 8 pada method PrintAllVideoPlaycount()

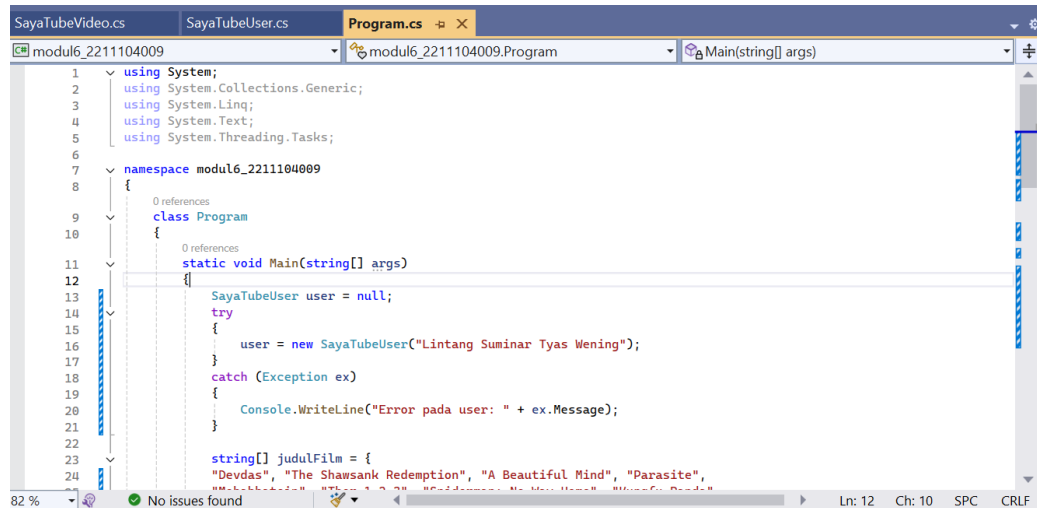
D. Panggil object dari class SayaTubeVideo dan SayaTubeUser yang menguji prekondisi, exception

dan postcondition. (Catatan: untuk exception boleh digunakan for loop sehingga proses overflow

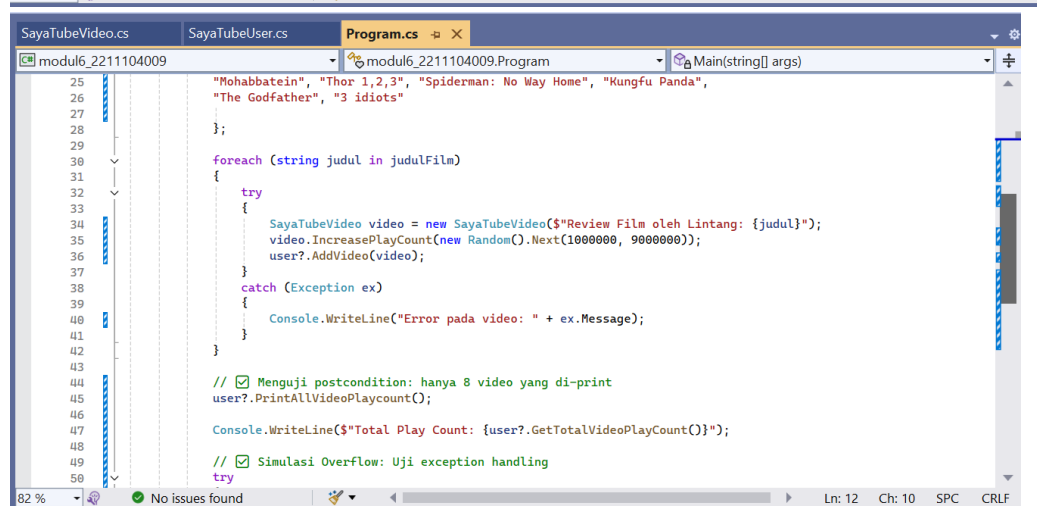
dapat dipercepat).

Jawab:

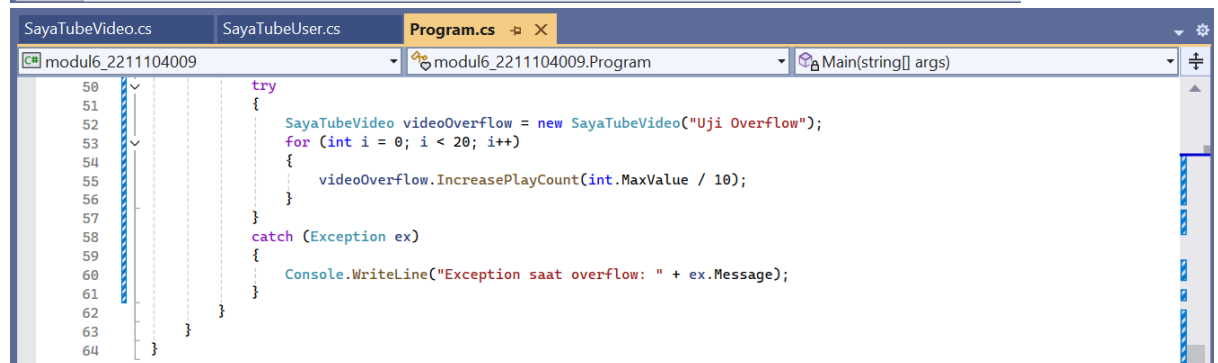
- Source Code Program.cs untuk bagian yang kedua



```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     class Program
10     {
11         static void Main(string[] args)
12         {
13             SayaTubeUser user = null;
14             try
15             {
16                 user = new SayaTubeUser("Lintang Suminar Tyas Wening");
17             }
18             catch (Exception ex)
19             {
20                 Console.WriteLine("Error pada user: " + ex.Message);
21             }
22
23             string[] judulFilm = {
24                 "Devdas", "The Shawshank Redemption", "A Beautiful Mind", "Parasite",
25                 "Mohabbatein", "Thor 1,2,3", "Spiderman: No Way Home", "Kungfu Panda",
26                 "The Godfather", "3 Idiots"
27             };
28
29             foreach (string judul in judulFilm)
30             {
31                 try
32                 {
33                     SayaTubeVideo video = new SayaTubeVideo($"Review Film oleh Lintang: {judul}");
34                     video.IncreasePlayCount(new Random().Next(1000000, 9000000));
35                     user?.AddVideo(video);
36                 }
37                 catch (Exception ex)
38                 {
39                     Console.WriteLine("Error pada video: " + ex.Message);
40                 }
41             }
42
43             // Menguji postcondition: hanya 8 video yang di-print
44             user?.PrintAllVideoPlaycount();
45
46             Console.WriteLine($"Total Play Count: {user?.GetTotalVideoPlayCount()}");
47
48             // Simulasi Overflow: Uji exception handling
49             try
50             {
51                 SayaTubeVideo videoOverflow = new SayaTubeVideo("Uji Overflow");
52                 for (int i = 0; i < 20; i++)
53                 {
54                     videoOverflow.IncreasePlayCount(int.MaxValue / 10);
55                 }
56             }
57             catch (Exception ex)
58             {
59                 Console.WriteLine("Exception saat overflow: " + ex.Message);
60             }
61         }
62     }
63 }
64
```



```
25 "Mohabbatein", "Thor 1,2,3", "Spiderman: No Way Home", "Kungfu Panda",
26 "The Godfather", "3 Idiots"
27 };
28
29 foreach (string judul in judulFilm)
30 {
31     try
32     {
33         SayaTubeVideo video = new SayaTubeVideo($"Review Film oleh Lintang: {judul}");
34         video.IncreasePlayCount(new Random().Next(1000000, 9000000));
35         user?.AddVideo(video);
36     }
37     catch (Exception ex)
38     {
39         Console.WriteLine("Error pada video: " + ex.Message);
40     }
41 }
42
43 // Menguji postcondition: hanya 8 video yang di-print
44 user?.PrintAllVideoPlaycount();
45
46 Console.WriteLine($"Total Play Count: {user?.GetTotalVideoPlayCount()}");
47
48 // Simulasi Overflow: Uji exception handling
49 try
50 {
51     SayaTubeVideo videoOverflow = new SayaTubeVideo("Uji Overflow");
52     for (int i = 0; i < 20; i++)
53     {
54         videoOverflow.IncreasePlayCount(int.MaxValue / 10);
55     }
56 }
57 catch (Exception ex)
58 {
59     Console.WriteLine("Exception saat overflow: " + ex.Message);
60 }
61
62 }
63
64 }
```



```
50 try
51 {
52     SayaTubeVideo videoOverflow = new SayaTubeVideo("Uji Overflow");
53     for (int i = 0; i < 20; i++)
54     {
55         videoOverflow.IncreasePlayCount(int.MaxValue / 10);
56     }
57 }
58 catch (Exception ex)
59 {
60     Console.WriteLine("Exception saat overflow: " + ex.Message);
61 }
62
63 }
64 }
```


- Source Code SayaTubeUser.cs untuk bagian yang kedua

```

SayaTubeVideo.cs  SayaTubeUser.cs  Program.cs
modul6_2211104009  modul6_2211104009.SayaTubeUser  Username

1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace modul6_2211104009
8  {
9      3 references
10     class SayaTubeUser
11     {
12         private int id;
13         private List<SayaTubeVideo> uploadedVideos;
14         2 references
15         public string Username { get; private set; }
16
17         1 reference
18         public SayaTubeUser(string username)
19         {
20             if (string.IsNullOrEmpty(username) || username.Length > 100)
21                 throw new ArgumentException("Username tidak valid.");
22
23             this.Username = username;
24             this.uploadedVideos = new List<SayaTubeVideo>();
25
26             Random rnd = new Random();
27             this.id = rnd.Next(10000, 99999);
28         }
29
30         1 reference
31         public void AddVideo(SayaTubeVideo video)
32         {
33             if (video == null || video.GetPlayCount() >= int.MaxValue)
34                 throw new ArgumentException("Video tidak valid.");
35
36             uploadedVideos.Add(video);
37         }
38
39         1 reference
40         public int GetTotalVideoPlayCount()
41         {
42             int total = 0;
43             foreach (var video in uploadedVideos)
44             {
45                 total += video.GetPlayCount();
46             }
47             return total;
48         }
49
50         // POSTCONDITION: Maksimal print 8 video
51         1 reference
52         public void PrintAllVideoPlaycount()
53         {
54             Console.WriteLine($"User: {Username}");
55
56             int jumlah = Math.Min(8, uploadedVideos.Count);
57             for (int i = 0; i < jumlah; i++)
58             {
59                 Console.WriteLine($"Video {i + 1} judul: {uploadedVideos[i].GetTitle()}");
60             }
61         }
62     }
63 }

```

- Source Code SayaTubeVideo.cs untuk bagian yang kedua

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace modul6_2211104009
8 {
9     class SayaTubeVideo
10     {
11         private int id;
12         private string title;
13         private int playCount;
14
15         public SayaTubeVideo(string title)
16         {
17             if (string.IsNullOrEmpty(title) || title.Length > 200)
18                 throw new ArgumentException("Judul video tidak valid.");
19
20             this.title = title;
21             this.playCount = 0;
22
23             Random rnd = new Random();
24             this.id = rnd.Next(10000, 99999);
25         }
26
27         public void IncreasePlayCount(int count)
28         {
29             if (count < 0 || count > 25000000)
30                 throw new ArgumentOutOfRangeException("Nilai play count harus 0 - 25.000.000");
31
32             try
33             {
34                 checked
35                 {
36                     playCount += count;
37                 }
38             }
39             catch (OverflowException)
40             {
41                 Console.WriteLine("Terjadi overflow pada playCount!");
42             }
43         }
44
45         public void PrintVideoDetails()
46         {
47             Console.WriteLine($"ID: {id}, Title: {title}, Play Count: {playCount}");
48         }
49
50         public int GetPlayCount() => playCount;
51
52         public string GetTitle() => title;
53     }
54 }
```

Kemudian melakukan commit dan push ke github

```
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git add .
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git commit -m "penambahan design by contract pada semua kelas"
[main 197f490] penambahan design by contract pada semua kelas
16 files changed, 81 insertions(+), 41 deletions(-)
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/047100af-f19b-4a7d-b5e8-50126e99d2ce.vsix
delete mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/2da51448-749f-42b8-ac8d-84f407d3e914.vsix
delete mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/4c28bd72-8e86-4179-b06b-2144c2f71cd6.vsix
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/69c482c6-47da-4d6f-a895-529930013ed1.vsix
delete mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/b5467efb-7790-4be3-b41a-ff78f8a571b3.vsix
create mode 100644 06_Design_by_Contract_dan_Defensive_Programming/JURNAL/modul6_2211104009/.vs/modul6_2211104009/FileContentIndex/c3032995-fc6c-4704-866f-82bcbae4de8a.vsix
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601> git push origin main
Enumerating objects: 41, done.
Counting objects: 100% (41/41), done.
Delta compression using up to 8 threads
Compressing objects: 100% (19/19), done.
Writing objects: 100% (23/23), 16.35 KiB | 2.72 MiB/s, done.
Total 23 (delta 11), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (11/11), completed with 10 local objects.
To https://github.com/LintangSuminar02/KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601.git
383b37b..197f490 main -> main
PS D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601>
```

- Hasil Output untuk bagian yang kedua

```
Microsoft Visual Studio Debu: X + v
User: Lintang Suminar Tyas Wening
Video 1 judul: Review Film oleh Lintang: Devdas
Video 2 judul: Review Film oleh Lintang: The Shawsank Redemption
Video 3 judul: Review Film oleh Lintang: A Beautiful Mind
Video 4 judul: Review Film oleh Lintang: Parasite
Video 5 judul: Review Film oleh Lintang: Mohabbatein
Video 6 judul: Review Film oleh Lintang: Thor 1,2,3
Video 7 judul: Review Film oleh Lintang: Spiderman: No Way Home
Video 8 judul: Review Film oleh Lintang: Kungfu Panda
Total Play Count: 37018610
Exception saat overflow: Specified argument was out of the range of valid values.
Parameter name: Nilai play count harus 0 - 25.000.000

D:\SEMESTER 6\Praktikum KPL\KPL_LINTANG-SUMINAR-TYAS-WENING_2211104009_SE0601\06_Design_by_Contract_dan_Defensive_Programming\JURNAL\modul6_2211104009\bin\Debug\modul6_2211104009.exe (process 23620) 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 . . .
```

Lalu terpush dan muncul di halaman repository kita

