

ASSIGNMENT-4

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CONSTRUCTOR CHAINING PROGRAM

```
using System;
namespace constructor_chaining
{
    class Student
    {
        public int sid;
        public Student(int id)
        {
            sid=id;
            Console.WriteLine("Hey I'm inside base class");
            Console.WriteLine("I'm also in base class");
        }
    }
    class Example:Student
    {
        public Example(int id):base (id)
        {
            Console.WriteLine("Hey I'm inside derived class");
            Console.WriteLine(id);
        }
    }
}
```

```
class Program
{
    static void Main(string[] args)
    {
        Example obj=new Example(102);

    }
}
}
```

ABSTRACT CLASS FIRST PROGRAM

```
using System;
```

```
namespace abstract_1
{
    abstract class absproject
    {
        public void Add(int x, int y)
        {
            Console.WriteLine("Addition of numbers is " + (x + y));
        }
        public void Sub(int x, int y)
        {
            Console.WriteLine("Substraction of numbers is " + (x - y));
        }
        public abstract void mul(int x, int y);
        public abstract void div(int x, int y);
    }
}
```

```
class abschild : absproject
{
    public override void mul(int i, int j)
    {
        Console.WriteLine("Multiplication of numbers is "+(i * j));
    }
    public override void div(int i, int j)
    {
        Console.WriteLine("Division of numbers is "+ (i / j));
    }
}
class Program
{
    static void Main(string[] args)
    {
        var obj = new abschild();
        obj.Add(10, 20);
        obj.mul(10, 20);
        obj.Sub(20, 10);
        obj.div(20, 5);
    }
}
```

ABSTRACT CLASS SECOND PROGRAM

```
using System;

namespace abstract_2
{
    abstract class person
    {
        public string name;
        public int age;
        public abstract void connection();
    }

    class student : person
    {
        public override void connection()
        {
            string name = this.name;
            int age = this.age;
            Console.WriteLine("Name of student is " + name);
            Console.WriteLine("Age of student is " + age);
        }
    }

    class faculty : person
    {
        public override void connection()
        {
            string name = this.name;
            int age = this.age;
            Console.WriteLine("Name of Faculty is " + name);
            Console.WriteLine("Age of Faculty is " + age);
        }
    }
}
```

```
    }  
}  
class Program  
{  
    static void Main(string[] args)  
    {  
        var fac = new faculty();  
        var stu = new student();  
        stu.age = 25;  
        stu.name = "Sukhdev";  
        fac.age = 45;  
        fac.name = "Sandeep Sir";  
        stu.connection();  
        fac.connection();  
    }  
}  
}
```

INTERFACE FIRST PROGRAM

```
using System;

namespace interface_1
{
    interface Ifirst
    {
        void add(int a,int b);
    }

    interface Isecond:Ifirst
    {
        void sub(int a,int b);
    }

    class test:Ifirst, Isecond
    {
        public void add(int a,int b)
        {
            Console.WriteLine("Addition of two numbers is "+(a+b));
        }

        public void sub(int a,int b)
        {
            Console.WriteLine("subtraction of two numbers is "+(a-b));
        }
    }

    class interfaces
    {
        static void Main(string[] args)
        {
```

```
        var obj=new test();  
        obj.add(10,20);  
        obj.sub(70,50);  
    }  
}  
}
```

INTERFACE SECOND PROGRAM

```
using System;  
namespace interface_2  
{  
    interface Istudent  
    {  
        public void branch();  
    }  
    class college:Istudent  
    {  
        public void branch()  
        {  
            Console.WriteLine("I'm from computer science branch");  
        }  
    }  
    class Program  
    {  
        static void Main(string[] args)  
        {  
            var obj=new college();  
            obj.branch();  
        }  
    }  
}
```

```
    }  
}  
}
```

INTERFACE THIRD PROGRAM

```
using System;  
  
namespace interface_3  
{  
    interface Icustomer  
    {  
        public void print1();  
    }  
  
    interface Ishopkeeper  
    {  
        public void print2();  
    }  
  
    public class test:Icustomer  
    {  
        public void print1()  
        {  
            System.Console.WriteLine("Hey I'm defining the funtion inside I customer interface");  
        }  
    }  
  
    class Program  
    {  
        static void Main(string[] args)  
        {
```



```
        var obj=new test();  
        obj.print1();  
    }  
}  
}
```

PROGRAM DEMONSTRATING STRUCTURE

```
using System;  
  
namespace struct_demo  
{  
    struct Mystructure  
    {  
        //public int i;  
        //int i=10; it will give error in structures but it will run in the case of classes  
        public string name;  
        public int id;  
  
        public Mystructure(string n, int id)  
        {  
            name=n;  
            this.id=id;  
        }  
        public void display()  
        {  
            System.Console.WriteLine(name);  
            System.Console.WriteLine(id);  
        }  
    }  
}  
  
class Program
```

```

{

    static void Main(string[] args)
    {
        Mystructure m1=new Mystructure("sukhdev",100);
        m1.display();
        //m1.i=10;

        //if we are not initializing value of i then it will give error when we are not using the
        new keyword then need to initialize data member explicitly
    }
}
}

```

PROGRAM DEMONSTRATING ENUM (USER DEFINED DATA TYPE)

```

using System;

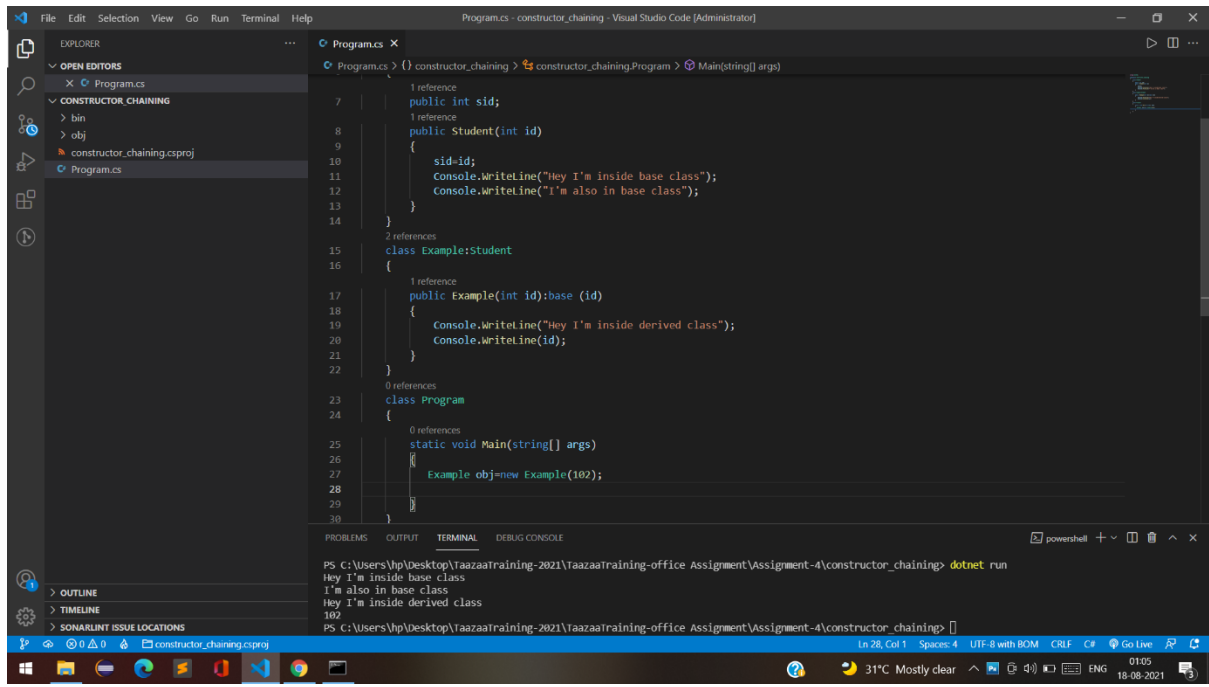
namespace enum_demo
{
    public enum days //enum is user defined data type
    {
        Monday,
        Tuesday,
        Wednesday,
        Thursday,
        Friday
    }

    class test

```

```
{
    static void Main()
    {
        for(int i=0;i<=4;i++)
        {
            days d=(days)i;
            Console.WriteLine(d);
        }
    }
}
```

SCREENSHOTS



The screenshot displays the Visual Studio Code interface with a C# project named 'constructor_chaining'. The Explorer sidebar on the left shows the project structure, including 'Program.cs'. The main editor window displays the following code:

```
7 | public int sid;
8 | public Student(int id)
9 | {
10 |     sid=id;
11 |     Console.WriteLine("Hey I'm inside base class");
12 |     Console.WriteLine("I'm also in base class");
13 | }
14 |
15 | 2 references
16 | class Example:Student
17 | {
18 |     1 reference
19 |     public Example(int id):base (id)
20 |     {
21 |         Console.WriteLine("Hey I'm inside derived class");
22 |         Console.WriteLine(id);
23 |     }
24 | }
25 | 0 references
26 | class Program
27 | {
28 |     0 references
29 |     static void Main(string[] args)
30 |     {
31 |         Example obj=new Example(102);
32 |     }
33 | }
```

The bottom panel shows the 'TERMINAL' output after running the program with the command `dotnet run`:

```
PS C:\Users\Vhp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\constructor_chaining> dotnet run
Hey I'm inside base class
I'm also in base class
Hey I'm inside derived class
102
PS C:\Users\Vhp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\constructor_chaining>
```

CONSTRUCTOR CHAINING

```
File Edit Selection View Go Run Terminal Help
Program.cs - abstract_1 - Visual Studio Code [Administrator]

EXPLORER
OPEN EDITORS
Program.cs
HumanBehaviour.cs
ABSTRACT_1
bin
obj
abstract_1.csproj
Program.cs

Program.cs
16 public abstract void div(int x, int y);
17 }
18 class abschild : absproject
19 {
20     public override void mul(int i, int j)
21     {
22         Console.WriteLine("Multiplication of numbers is " + (i * j));
23     }
24     public override void div(int i, int j)
25     {
26         Console.WriteLine("Division of numbers is " + (i / j));
27     }
28 }
29 class Program
30 {
31     static void Main(string[] args)
32     {
33         var obj = new abschild();
34         obj.Add(10, 20);
35         obj.mul(10, 20);
36         obj.Sub(20, 10);
37         obj.div(20, 5);
38     }
39 }

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
PS C:\Users\hp\Desktop\Taazaatraining-2021\Taazaatraining-office Assignment\Assignment-4\abstract_1> dotnet run
Addition of numbers is 30
Multiplication of numbers is 200
Subtraction of numbers is 10
Division of numbers is 4
PS C:\Users\hp\Desktop\Taazaatraining-2021\Taazaatraining-office Assignment\Assignment-4\abstract_1>
```

ABSTRACT 1

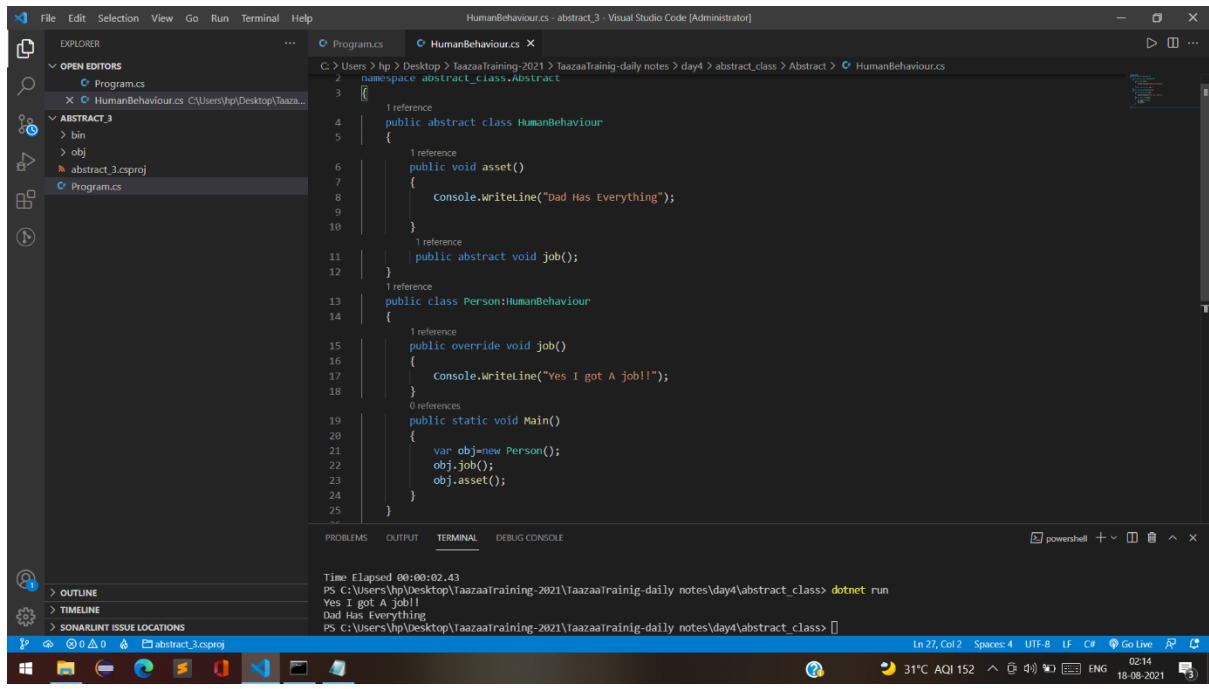
```
File Edit Selection View Go Run Terminal Help
Program.cs - abstract_2 - Visual Studio Code [Administrator]

EXPLORER
OPEN EDITORS
Program.cs
ABSTRACT_2
bin
obj
abstract_2.csproj
Program.cs

Program.cs
17 Console.WriteLine("Name of student is " + name);
18 Console.WriteLine("Age of student is " + age);
19 }
20 }
21 class faculty : person
22 {
23     public override void connection()
24     {
25         string name = this.name;
26         int age = this.age;
27         Console.WriteLine("Name of Faculty is " + name);
28         Console.WriteLine("Age of Faculty is " + age);
29     }
30 }
31 class Program
32 {
33     static void Main(string[] args)
34     {
35         var fac = new faculty();
36         var stu = new student();
37         stu.age = 25;
38         stu.name = "Sukhdev";
39         fac.age = 45;
40         fac.name = "Sandeep Sir";
41         stu.connection();
42     }
43 }

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Time Elapsed 00:00:02.52
PS C:\Users\hp\Desktop\Taazaatraining-2021\Taazaatraining-office Assignment\Assignment-4\abstract_2> dotnet run
Name of student is Sukhdev
Age of student is 25
Name of Faculty is Sandeep Sir
Age of Faculty is 45
PS C:\Users\hp\Desktop\Taazaatraining-2021\Taazaatraining-office Assignment\Assignment-4\abstract_2>
```

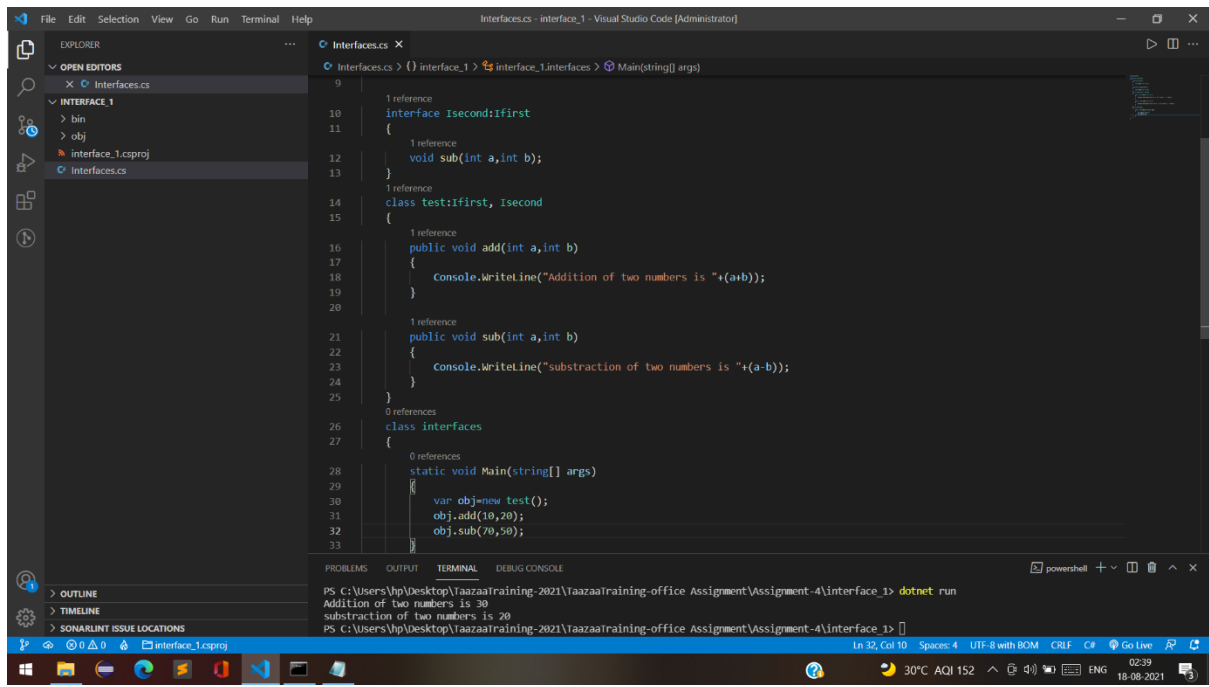
ABSTRACT 2



```
HumanBehaviour.cs - abstract_3 - Visual Studio Code [Administrator]
C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-daily notes\day4\abstract_class> dotnet run
namespace abstract_class.Abstract
{
    1 reference
    4 public abstract class HumanBehaviour
    5 {
    6     1 reference
    7     public void asset()
    8     {
    9         Console.WriteLine("Dad Has Everything");
    10    }
    11    1 reference
    12    public abstract void job();
    13    1 reference
    14    public class Person:HumanBehaviour
    15    {
    16        1 reference
    17        public override void job()
    18        {
    19            Console.WriteLine("Yes I got A job!!");
    20        }
    21    0 references
    22    public static void Main()
    23    {
    24        var obj=new Person();
    25        obj.job();
    26        obj.asset();
    27    }
    28    }
    29    }
    30    }
    31    }
    32    }
    33    }
    34    }
    35    }
    36    }
    37    }
    38    }
    39    }
    40    }
    41    }
    42    }
    43    }
    44    }
    45    }
    46    }
    47    }
    48    }
    49    }
    50    }
    51    }
    52    }
    53    }
    54    }
    55    }
    56    }
    57    }
    58    }
    59    }
    60    }
    61    }
    62    }
    63    }
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    65    }
    66    }
    67    }
    68    }
    69    }
    70    }
    71    }
    72    }
    73    }
    74    }
    75    }
    76    }
    77    }
    78    }
    79    }
    80    }
    81    }
    82    }
    83    }
    84    }
    85    }
    86    }
    87    }
    88    }
    89    }
    90    }
    91    }
    92    }
    93    }
    94    }
    95    }
    96    }
    97    }
    98    }
    99    }
    100   }
```

Time Elapsed 00:00:02.43
PS C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-daily notes\day4\abstract_class> dotnet run
Yes I got A job!
Dad Has Everything
PS C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-daily notes\day4\abstract_class>

ABSTRACT 3



```
Interfaces.cs - interface_1 - Visual Studio Code [Administrator]
C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-office Assignment\Assignment-4\interface_1> dotnet run
interface_1.Interfaces> Main(string[] args)
9
10 1 reference
11 interface Isecond:ifirst
12 {
13     1 reference
14     void sub(int a,int b);
15 }
16 1 reference
17 class test:ifirst, Isecond
18 {
19     1 reference
20     public void add(int a,int b)
21     {
22         Console.WriteLine("Addition of two numbers is "+(a+b));
23     }
24     1 reference
25     public void sub(int a,int b)
26     {
27         Console.WriteLine("subtraction of two numbers is "+(a-b));
28     }
29 }
30 0 references
31 class Interfaces
32 {
33     0 references
34     static void Main(string[] args)
35     {
36         var obj=new test();
37         obj.add(10,20);
38         obj.sub(70,50);
39     }
40 }
41 }
42 }
43 }
44 }
45 }
46 }
47 }
48 }
49 }
50 }
51 }
52 }
53 }
54 }
55 }
56 }
57 }
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77 }
78 }
79 }
80 }
81 }
82 }
83 }
84 }
85 }
86 }
87 }
88 }
89 }
90 }
91 }
92 }
93 }
94 }
95 }
96 }
97 }
98 }
99 }
100 }
```

PS C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-office Assignment\Assignment-4\interface_1> dotnet run
Addition of two numbers is 30
subtraction of two numbers is 20
PS C:\Users\hp\Desktop\TaazaTraining-2021\TaazaTraining-office Assignment\Assignment-4\interface_1>

INTERFACE 1

```
Program.cs > {} Interface_2 > Main(string[] args)
1 using System;
2
3 namespace interface_2
4 {
5     1 reference
6     interface Istudent
7     {
8         1 reference
9         public void branch();
10    }
11    1 reference
12    class college:Istudent
13    {
14        1 reference
15        public void branch()
16        {
17            Console.WriteLine("I'm from computer science branch");
18        }
19    }
20    0 references
21    class Program
22    {
23        0 references
24        static void Main(string[] args)
25        {
26            var obj=new college();
27            obj.branch();
28        }
29    }
```

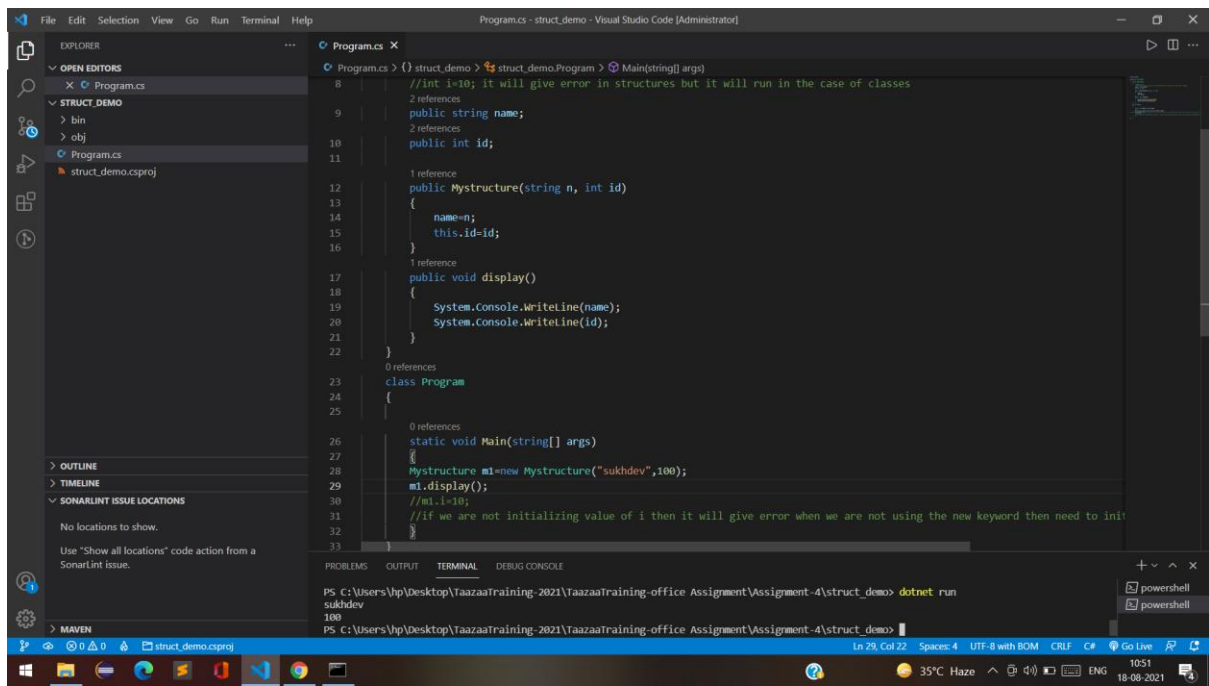
Time Elapsed 00:00:05.12
PS C:\Users\hp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\interface_2> dotnet run
I'm from computer science branch
PS C:\Users\hp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\interface_2>

INTERFACE 2

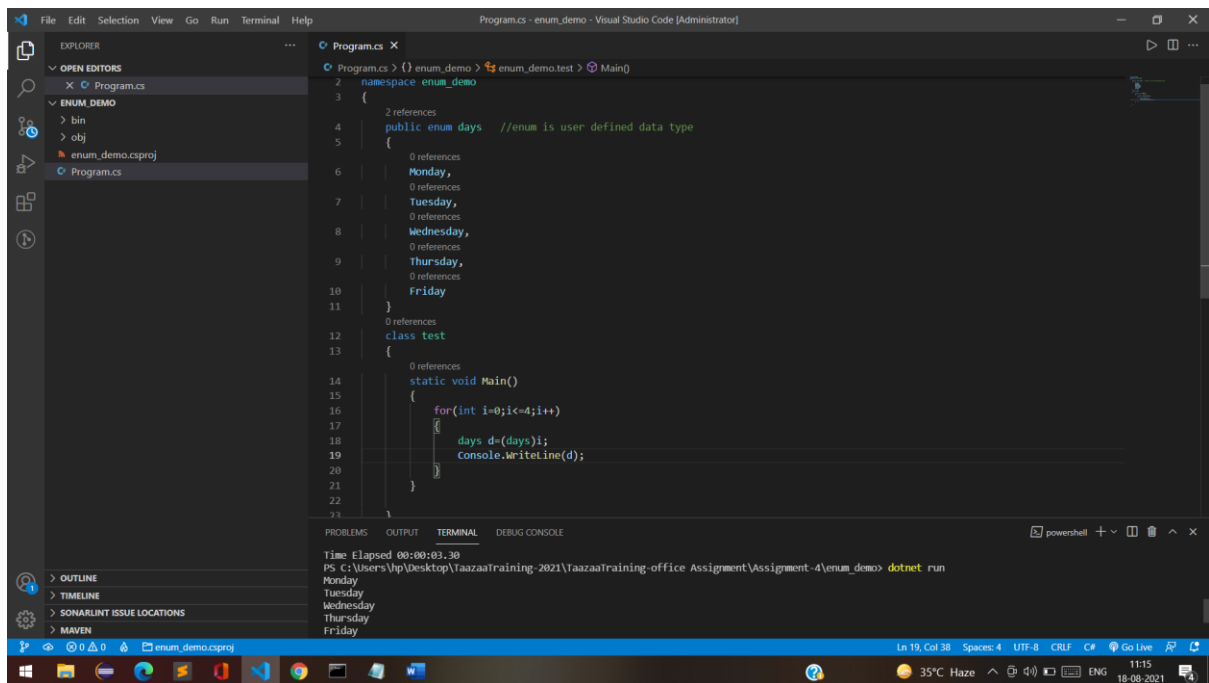
```
Program.cs > {} Interface_3 > Main(string[] args)
1 using System;
2
3 namespace interface_3
4 {
5     1 reference
6     interface Icustomer
7     {
8         1 reference
9         public void print1();
10    }
11    0 references
12    interface Ishopkeeper
13    {
14        0 references
15        public void print2();
16    }
17    1 reference
18    public class test:Icustomer
19    {
20        1 reference
21        public void print1()
22        {
23            System.Console.WriteLine("Hey I'm defining the funtion inside I customer interface");
24        }
25    }
26    0 references
27    class Program
28    {
29        0 references
30        static void Main(string[] args)
31        {
32            test obj=new test();
33            obj.print1();
34            obj.print2();
35        }
36    }
```

Time Elapsed 00:00:02.71
PS C:\Users\hp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\interface_3> dotnet run
Hey I'm defining the funtion inside I customer interface
PS C:\Users\hp\Desktop\TaazaaTraining-2021\TaazaaTraining-office Assignment\Assignment-4\interface_3>

INTERFACE 3



STRUCT DEMO



ENUM DEMO