Day 14(10-02-2022) Assignment

By

Sudha Kumari Sugasani

Q1.Research and write what is the use of sealed class.
Write a C # program to illustrate sealed class.

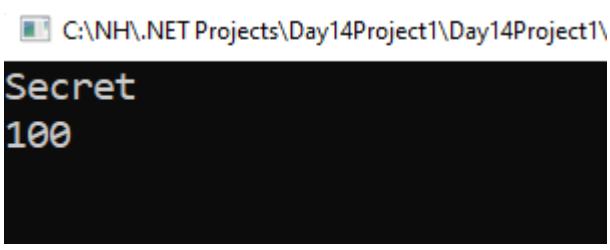
Sealed class is same as normal class but it cannot be used as a parent class for other classes.

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day14Project1
{
    /**********************************
     * Author:Sudha Kumari Sugasani
     * Purpose:Example for sealed class
     **********************************/
    sealed class Police
    {
        public static int Helpline = 100;
        public string GetSecret()
        {
            return "Secret";
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Police p = new Police();
            Console.WriteLine(p.GetSecret());
            Console.WriteLine(Police.Helpline);
            Console.ReadLine();
        }
    }
}
```

Output:



Q2.Research and write what is the difference between normal properties and auto-implemented properties .
Write a C# program to illustrate normal properties
Write a C# program to illustrate auto-implemented properties

Normal Properties	Auto-implemented Properties

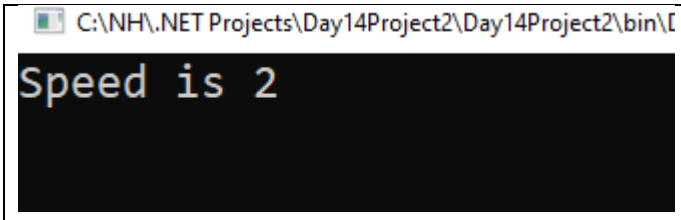
1.Normal properties used to create point to private variables.	1.Auto implemented properties have both get and set access or either must only get access, but alone set we can't use.

Code for normal properties:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day14Project2
{
    /*************************************************
     * Author:Sudha Kumari Sugasani
     * Purpose:Example program for normal properties
     * ***********************************************/
    class AverageSpeed
    {
        private int distance;
        private int time;
        private int speed;
        public int Distance
        {
            set
            {
                distance = value;
            }
        }
        public int Time
        {
            set { time = value; }
        }
        public int Speed
        {
            get
            {
                speed = distance / time;
                return speed;
            }
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            AverageSpeed avg = new AverageSpeed();
            avg.Distance = 10;
            avg.Time = 5;
            Console.WriteLine($"Speed is {avg.Speed}");
            Console.ReadLine();
        }
    }
}
```

Output:



Code for auto-implemented properties:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day14Project3
{

        /*********************************************************
         * Author:Sudha Kumari Sugasani
         * Purpose:Example program for auto-implemented properties
         * *******************************************************/
        class AverageVelocity
        {

            public int Displacement
            {
            get
            {
                return 50;
            }
            }
            public int Time
            {
                get{ return 20; }
            }
            public int Velocity
            {

                get
                {
                    return Displacement/Time;
                }
            }
        }
        internal class Program
        {
            static void Main(string[] args)
            {
                AverageVelocity vel=new AverageVelocity();
                Console.WriteLine($"Displacement is { vel.Displacement}");
                Console.WriteLine($"Time is {vel.Time}");
                Console.WriteLine($"Velocity is {vel.Velocity}");
                Console.ReadLine();
            }
        }
    }
```

Output:

C:\NH\.NET Projects\Day14Project3\Day14Project3\

```
Displacement is 50
Time is 20
Velocity is 2
```

Q3.Research and fix the below issue

```
Interface IRules
{
    int Age {get;set;};
    int Add(int a,int b);
    public void PrintHi()
    {
       Console.WriteLine("Hi");
    }
}
```

Code:

```
using System;
using System.Collections.Generic;
using System.Text;

namespace Practise
{
    interface IRule
    {
        public static void Add(int a, int b)
        {
            int c = a + b;
            Console.WriteLine(c);
        }
        public static void Main(string[]args)
        {
            IRule.Add(20, 30);

        }

    }
}
```

Output:

```
Select Microsoft Visual Studio Debug Console
50

C:\Users\Sudha Sugasani\source\repos\Interface\Interface\bin\Debug\net6.0\Interface.exe (process 21592) exited with code 0.
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 . . .
```

Q4.Write a C# program to check if the number is not using logic discussed in the class

Hint:Use break

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
```

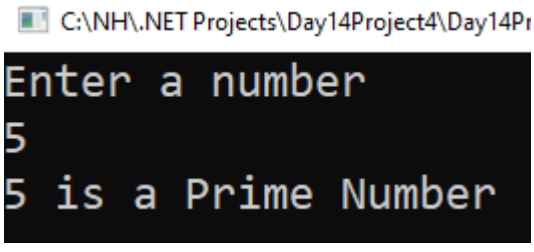
```
using System.Threading.Tasks;

namespace Day14Project4
{
    /*****************************************************************
     * Author:Sudha Kumari Sugasani
     * Purposse:Program to check the number is prime or not using break
     * ***************************************************************/
    class Prime
    {
       /// <summary>
       /// This method will check the given number is prime or not
       /// </summary>
        public void IsPrime()
        {
             int n , i;
            Console.WriteLine("Enter a number");
            n=Convert.ToInt32(Console.ReadLine());
            for(i=2;i<n;i++)
            {
               if(n%i==0)
               break;
            }
             if(i==n)
            Console.WriteLine($"{n} is a Prime Number");
             else
            Console.WriteLine($"{n} is not a Prime Number");

        }

     }
    internal class Program
    {
        static void Main(string[] args)
        {
           Prime p1=new Prime();
            p1.IsPrime();
            Console.ReadLine();
        }
    }
}
```

Output:



Q5.Print numbers from 1 to 30 and skip the numbers divisible by 3
Hint:Use Continue;

Code:

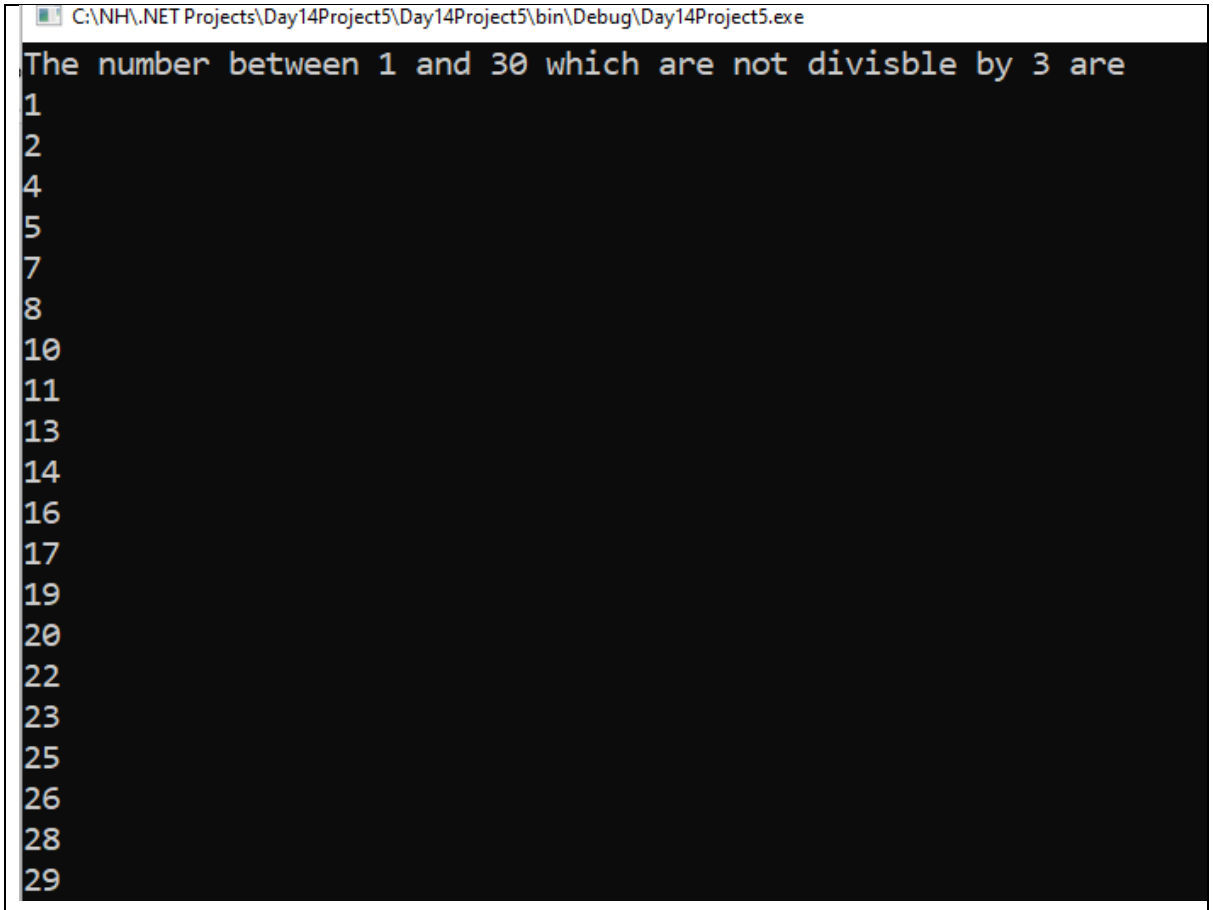
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
```

```
namespace Day14Project5
{
        /*****************************************************************
         * Author:Sudha Kumari Sugasani
         * Purposse:Program to print the number from 1 to 30 and skip the
         *          numbers which are divisible by 3 using continue
         * ***************************************************************/
        class Numbers
        {
            /// <summary>
            /// This method will print numbers from 1 to 30
            /// </summary>
            public void PrintNumbers()
            {
            int i;
            Console.WriteLine("The number between 1 and 30 which are not
divisble by 3 are ");
                for (i = 1; i <=30; i++)
                {
                    if (i%3 == 0)
                       continue;
                Console.WriteLine(i);
                }

            }

        }
        internal class Program
        {
            static void Main(string[] args)
            {
                Numbers n1=new Numbers();
                n1.PrintNumbers();
                Console.ReadLine();
            }
        }
    }
```

Output:



Q6.Find the first number after 1000 which is divisible by 97
Hint:Use for loop and break

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day14Project6
{

        /*****************************************************************
         * Author:Sudha Kumari Sugasani
         * Purposse:Program to print the first number after 1000 which is
         *          divisible by 97 using break and for loop
         * ***************************************************************/
        class Divisible
        {
            /// <summary>
            /// This method will print the number which is divisible by 97
            /// </summary>
            public void PrintNumbers()
            {
                int i;

                for (i = 1000; i <= 1097; i++)
                {
                    if (i % 97 == 0)
                    {
```

```
                    Console.WriteLine($"First number which is divisble by 97 is
{i}");
                    break;
                    }
                }

            }

        }
        internal class Program
        {
            static void Main(string[] args)
            {
                Divisible d1=new Divisible();
                d1.PrintNumbers();
                Console.ReadLine();
            }
        }
    }
```

Output: