Day 14 Assignment

By

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Question 1:
Research and Write What is the use of sealed class ?

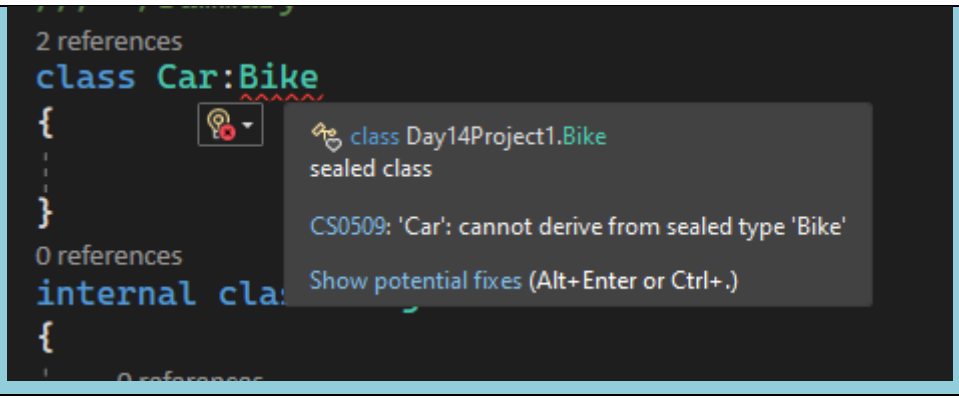
Usage:

The main purpose of a sealed class is to take away the inheritance feature from the class users so they cannot derive a class from it. One of the best usage of sealed classes is when you have a class with static members.

Code:

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

namespace Day14Project1
{            //*****************************************************\\
             //Author:Narala Praveen
             //Purpose:To create an Sealed class.

    /// <summary>
    /// sealed class
    /// </summary>
   sealed class  Bike
    {
        public int price;
        public string name;
    }
    /// <summary>
    /// not possible to inherit.
    /// </summary>
    class Car:Bike
    {

    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Bike bike = new Bike();
            bike.price = 5000;
            bike.name = "yamaha";
            Car car = new Car();
            car.price = 6000;
            Console.WriteLine(bike.price);
            Console.ReadLine();
        }

    }
}
```

Error:



Question2:
Research and write what is the difference normal properties and auto-implemented properties.
WACP to illustrate normal properties.
WACP to illustrate auto-implemented properties.

Difference between normal properties and auto implemented properties:

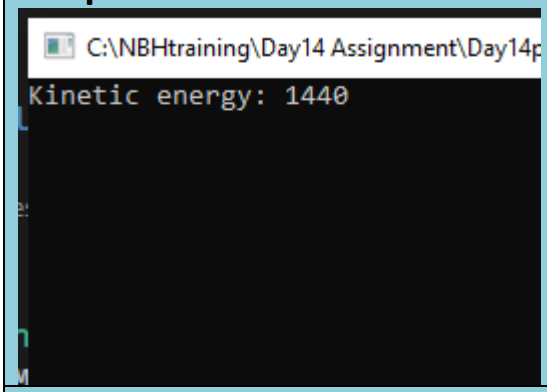
Normal properties	Auto implemented Properties
Normal properties need to have compulsory get and set	Auto implemented properties must have get.
Normal properties are already declared in class.	Auto implemented properties are instance.
They may be writeonly or Readonly	They are compulsory have to be Readonly

Code for Normal Properties:

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

namespace Day14project2
{       //*************************************************************************\\
        //Author:Narala Praveen
        //Purpose:Difference between normal Properties.

    class kineticenergy
```

```
    {
        private int energy;
        private int mass;
        private int velocity;

        //Normal Properties.
        public int Mass
        {

            set { mass = value; }
        }
        public int Velocity
        {

            set { velocity = value; }

        }
        public int Energy
        {
            get
            {
                energy = (mass * velocity * velocity) / 2;
                return energy;
            }
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            kineticenergy k = new kineticenergy();
            k.Mass = 20;
            k.Velocity = 12;
            Console.WriteLine($"Kinetic energy: {k.Energy}");
            Console.ReadLine();
        }
    }
}
```

Output:

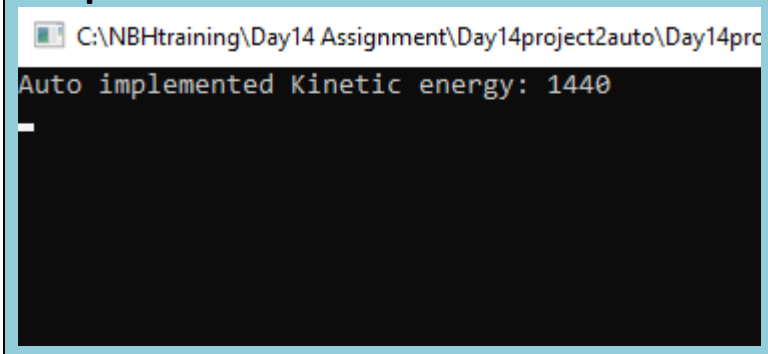


Code for Auto-implemented properties:

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

namespace Day14project2auto
{       //*************************************************************\\
        //Author:Narala Praveen
```

```
       //Purpose:code for Auto-implemented Properties.

    class kineticenergy
    {

        private int mass;
        private int velocity;

        //Normal Properties.
        public int Mass
        {

            set { mass = value; }
        }
        public int Velocity
        {

            set { velocity = value; }

        }
        //Auto-implemented properties:
        public int Energy
        {
            get
            {
                return  (mass * velocity * velocity) / 2;

            }
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            kineticenergy k = new kineticenergy();
            k.Mass = 20;
            k.Velocity = 12;
            Console.WriteLine($"Auto implemented Kinetic energy: {k.Energy}");
            Console.ReadLine();
        }
    }
}
```

Output:



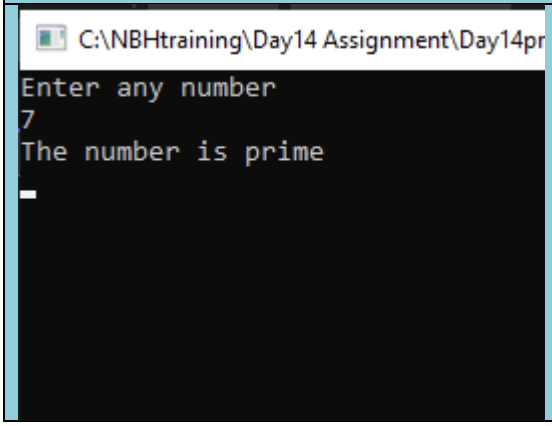
Day 14 Assignment

Question4:
WACP to check if the number is prime or 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 Day14projec4
  //Author:Narala Praveen
  //Purpose:prime number using break
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n;
            int i;


            Console.WriteLine("Enter any number");
            n = Convert.ToInt32(Console.ReadLine());

            for ( i = 2; i <= n; i++)
            {
                if (n % i == 0)
                    break;//break
            }
                if (i == n)
                    Console.WriteLine("The number is prime");
                else
                    Console.WriteLine("the number is not prime");

            Console.ReadLine();



        }
    }
}
```

Output:

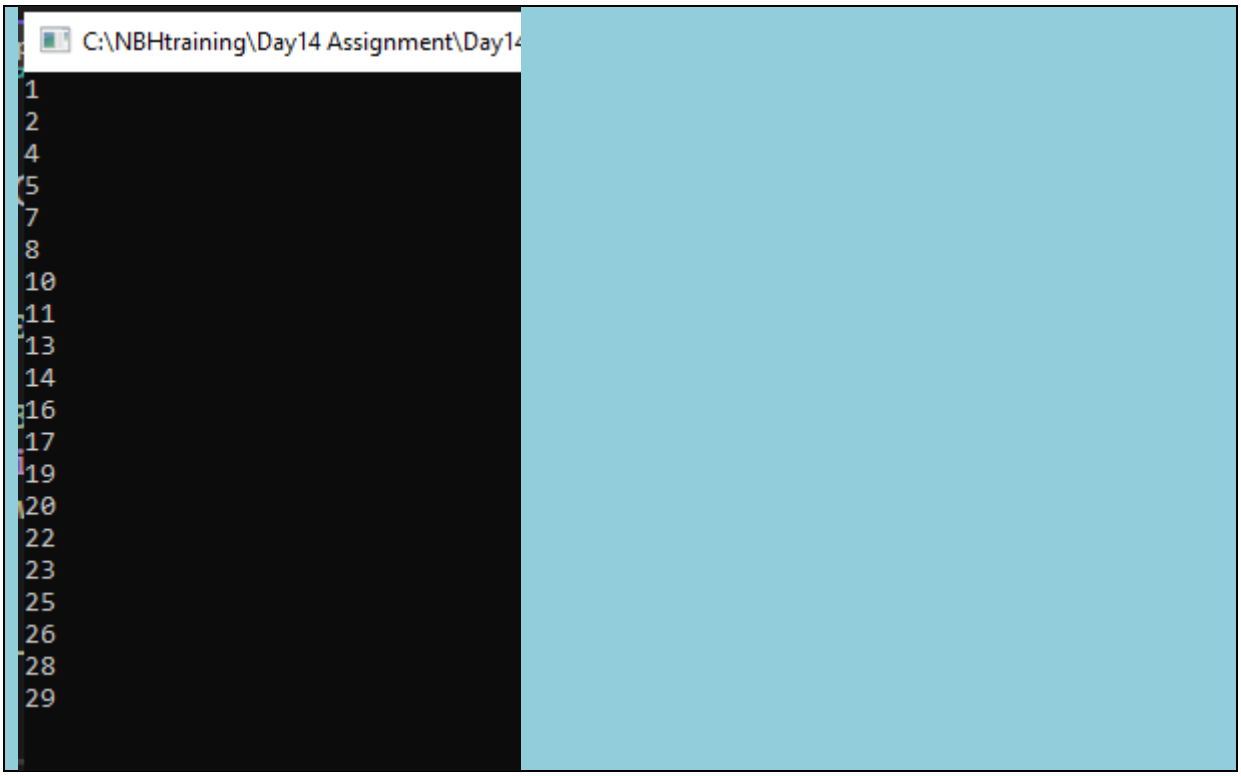


Question5:
Print numbers from 1 to 30 and skip the numbers divisible by 3 (Hint:use continue)

Code:

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

namespace Day14project5
{   //Author:Narala Praveen
    //Purpose:print numbers which are not divisble by 3 in the range of 1 to 30
    internal class Program
    {
        static void Main(string[] args)
        {
            int i;
            for (i=1;i<30;i++)
            {
                if (i % 3 == 0)
                    continue;
                Console.WriteLine(i);

            }
            Console.ReadLine();
        }
    }
}
```

Output:



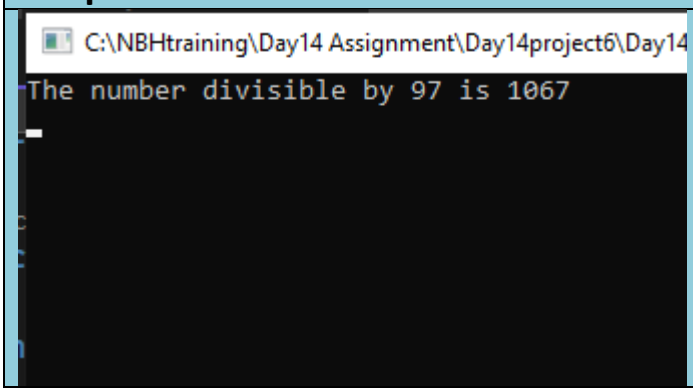
Question6:
Find the first number after 1000 which is divisible by 97?
(Hint:use for loop and break)

Code:

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

namespace Day14project6
{     //*********************************************************\\
     //Author:Narala Praveen
     //Purpose:print the number which is divisible by 97 after 1000

    internal class Program
    {
        static void Main(string[] args)
        {
            int i;
            int n = 97;
            for(i=1000;i<1097;i++)
            {
                if (i % n== 0)
                    break;
            }
            Console.WriteLine("The number divisible by 97 is {0}",i);
            Console.ReadLine();
        }
    }
```

```
}
```

Output:


C:\NBHtraining\Day14 Assignment\Day14project6\Day14
The number divisible by 97 is 1067