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HW#5

第 10 章

實作題 3

```
using System;
```

```
interface IPrice {
```

```
    double GetPrice();
```

```
}
```

```
class Car : IPrice { public double Price;
```

```
    public string? Name;
```

```
    public double GetPrice(){ return this.Price; }
```

```
    public string? GetName() { return this.Name; }
```

```
}
```

```
class Program
```

```
{
```

```
    static void Main(string[] args)
```

```
    {
```

```
Car car = new Car();

car.Price = 10000;

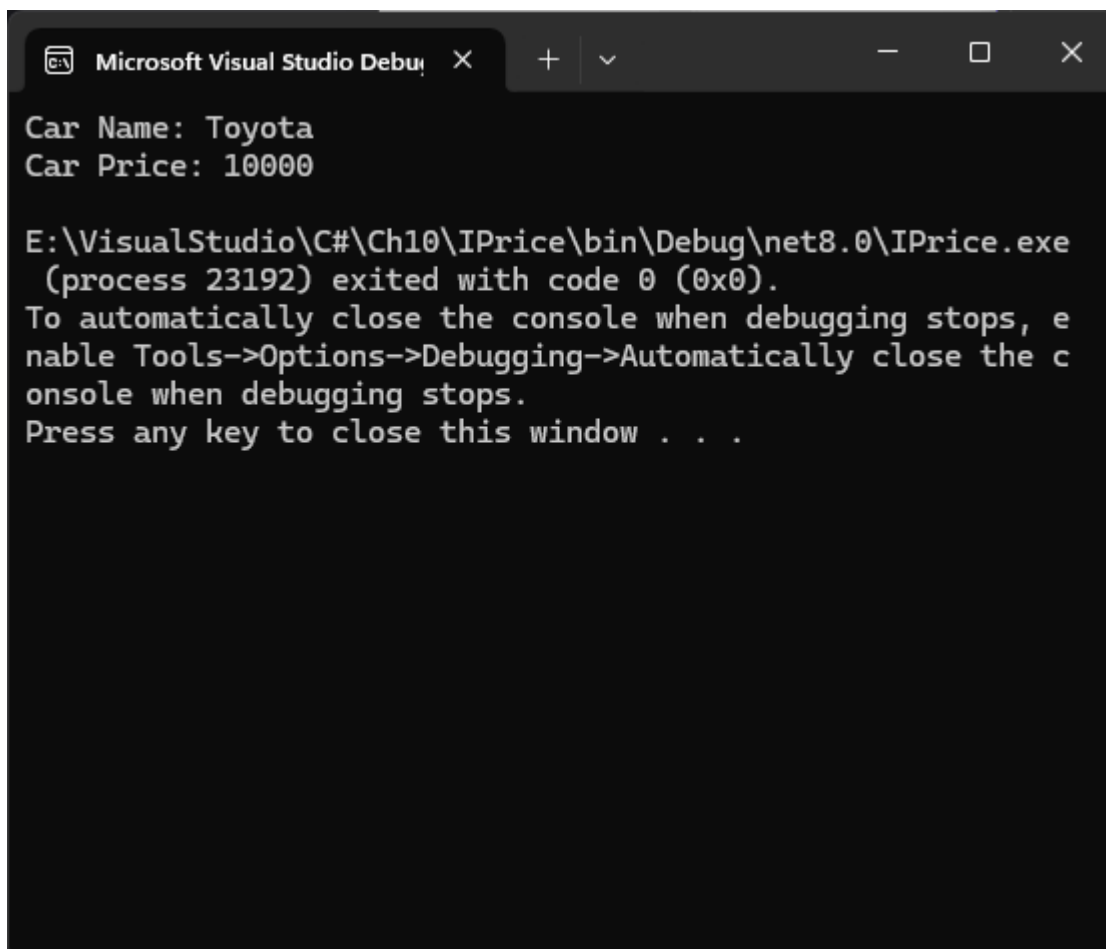
car.Name = "Toyota";

Console.WriteLine(

    $"Car Name: {car.GetName()}\n" +

    $"Car Price: {car.GetPrice()}");

}
```



```
Microsoft Visual Studio Debug Console
Car Name: Toyota
Car Price: 10000

E:\VisualStudio\C#\Ch10\IPrice\bin\Debug\net8.0\IPrice.exe
(process 23192) exited with code 0 (0x0).
To automatically close the console when debugging stops, e
nable Tools->Options->Debugging->Automatically close the c
onsole when debugging stops.
Press any key to close this window . . .
```

實作題 第 1

```
using System;
```

```
public class MyMath {
```

```
    static public int Cube(int x)
```

```
    {
```

```
        return x * x * x;
```

```
    }
```

```
    static public double Cube(double x)
```

```
    {
```

```
        return x * x * x;
```

```
    }
```

```
    static public int MinElement(int a,int b,int c) {
```

```
        int min = (a <= b && a <= c) ? a : (b <= a && b <= c) ? b : c;
```

```
        return min;
```

```
    }
```

```
    static public int MinElement(int a, int b, int c, int d) {
```

```
        int min = a;
```

```
        if (min > b) min = b;
```

```
        if (min > c) min = c;
```

```
        if (min > d) min = d;

        return min;

    }

}
```

```
class Program
```

```
{

    static void Main(string[] args) {

        Console.WriteLine($"Cube of the number 9 =

{MyMath.Cube(9)}\n" +

            $"And cube of number 3.75 = {MyMath.Cube(3.75):00.00}\n"

+

            $"Min value of three numbers [100,50,75] =

{MyMath.MinElement(100,50,75)}\n" +

            $"Min value of four numbers [30,75,2,2000] =

{MyMath.MinElement(30,75,2,2000)}");

    }

}
```

```
Microsoft Visual Studio Debug
Cube of the number 9 = 729
And cube of number 3.75 = 52.73
Min value of three numbers [100,50,75] = 50
Min value of four numbers [30,75,2,2000] = 2

E:\VisualStudio\C#\Ch11\Cube\bin\Debug\net8.0\Cube.exe (process 34580) 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 . . .|
```

第 12 章

實作題 第 3

```
public class UnitConversion{

    public static int FeetToInches(int value) {

        return value * 12;

    }

    public static int YardsToInches(int value)

    {

        return value * 3 * 12;

    }

}
```

```
delegate int ConversionDelegate(int value);

class Program
{
    static void Main(string[] args)
    {
        int choice,value;

        Console.WriteLine("Enter a value: ");

        while(!int.TryParse(Console.ReadLine(), out value))
        {
            Console.WriteLine("Invalid input, please enter an integer
number.");
        }

        Console.WriteLine("Choose a conversion: 1. Feet to Inches 2.
Yards to Inches");

        while(!int.TryParse(Console.ReadLine(), out choice))
        {
            Console.WriteLine("Invalid input, please choose 1. Feet to
Inches 2. Yards to Inches");
        }
    }
}
```

```
while (choice != 1 && choice != 2)

{

    Console.WriteLine("Invalid choice, please choose 1. Feet to  
Inches 2. Yards to Inches");

    _ = int.TryParse(Console.ReadLine(), out choice);

}

if (choice == 1)

{

    ConversionDelegate conversion = new  
ConversionDelegate(UnitConversion.FeetToInches);

    Console.WriteLine($"{value} feet is {conversion(value)}  
inches.");

}

else if (choice == 2)

{

    ConversionDelegate conversion = new  
ConversionDelegate(UnitConversion.YardsToInches);

    Console.WriteLine($"{value} yards is {conversion(value)}  
inches.");

}
```

```

    }

}

}

```

```

Microsoft Visual Studio Debug Console
Enter a value:
a
Invalid input, please enter an integer number.
20.5
Invalid input, please enter an integer number.
20
Choose a conversion: 1. Feet to Inches 2. Yards to Inches
a
Invalid input, please choose 1. Feet to Inches 2. Yards to Inches
3
Invalid choice, please choose 1. Feet to Inches 2. Yards to Inches
5
Invalid choice, please choose 1. Feet to Inches 2. Yards to Inches
1
20 feet is 240 inches.

E:\VisualStudio\C#\Ch12\UnitConversion\bin\Debug\net8.0\UnitConversion.exe (process 1844) 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 . . .

```

第 13 章

實作題 第 3

```
using System;
```

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

```
using System.ComponentModel;
```



```
using System.Data;
```

```
using System.Drawing;
```

```
using System.Linq;
```

```
using System.Text;
```

```
using System.Threading.Tasks;
```

```
using System.Windows.Forms;
```

```
namespace TrafficLight
```

```
{
```

```
    public partial class Form1 : Form
```

```
    {
```

```
        public Form1()
```

```
        {
```

```
            InitializeComponent();
```

```
        }
```

```
        private void Traffic_light_lbl_MouseClick(object sender,
```

```
MouseEventArgs e)
```

```
        {
```

```
switch (e.Button)
{
    case MouseButton.Left:
        Traffic_light_lbl.BackColor = Color.Yellow;
        break;
    case MouseButton.Right:
        Traffic_light_lbl.BackColor = Color.Green;
        break;
}
}
}
}
```



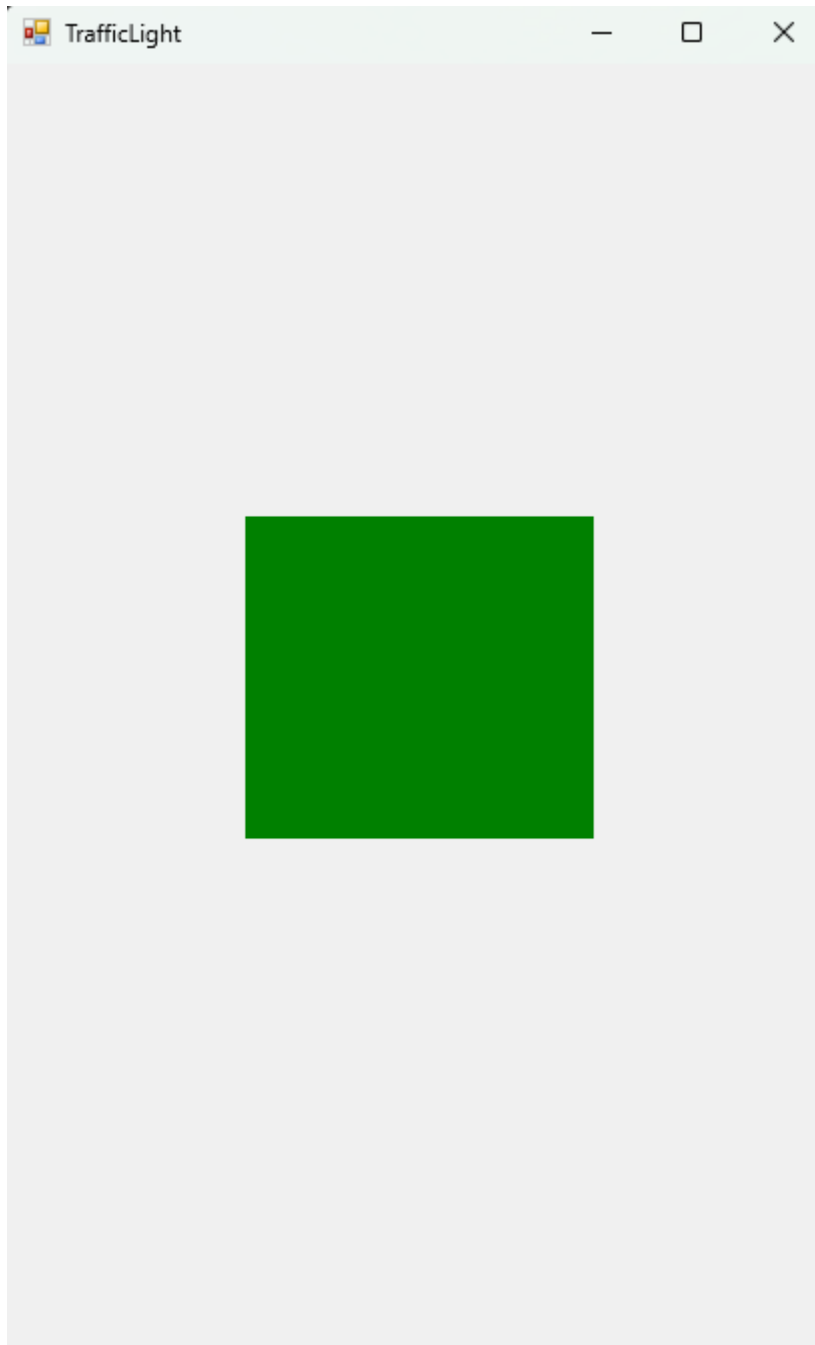
TrafficLight





TrafficLight





第 15 章

簡答題 第 4

在 FileInfo 物件建立新文字檔是使用 **CreateText()**方法，新增文字內容至當尾是呼叫 **AppendText()**方法來開啟檔案。

簡答題 第 5

檔案對話方塊依用途分為 2 種控制項：**OpenFileDialog 控制項**和
SaveFileDialog 控制項。