C# 基礎知識

Ian Chen

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Type

1. Reference type
2. Value type

Reference Type & Value Type

- 參考型別
  - 1. 變數儲存位址
  - 2. Heap
  - 3. 介面、類別、委派
- 值型別
  - 1. 變數儲存實體
  - 2. Stack
  - 3. 結構、列舉

Primitive type

基元型別

Primitive type

- 對應表

C# Type	.NET Framework Type
bool	System.Boolean
byte	System.Byte
sbyte	System.SByte
char	System.Char
decimal	System.Decimal
double	System.Double
float	System.Single
int	System.Int32
uint	System.UInt32
long	System.Int64
ulong	System.UInt64
object	System.Object
short	System.Int16
ushort	System.UInt16
string	System.String

Access Modifiers

- 存取修飾詞
  - 1. public
  - 2. protected
  - 3. private
  - 4. internal

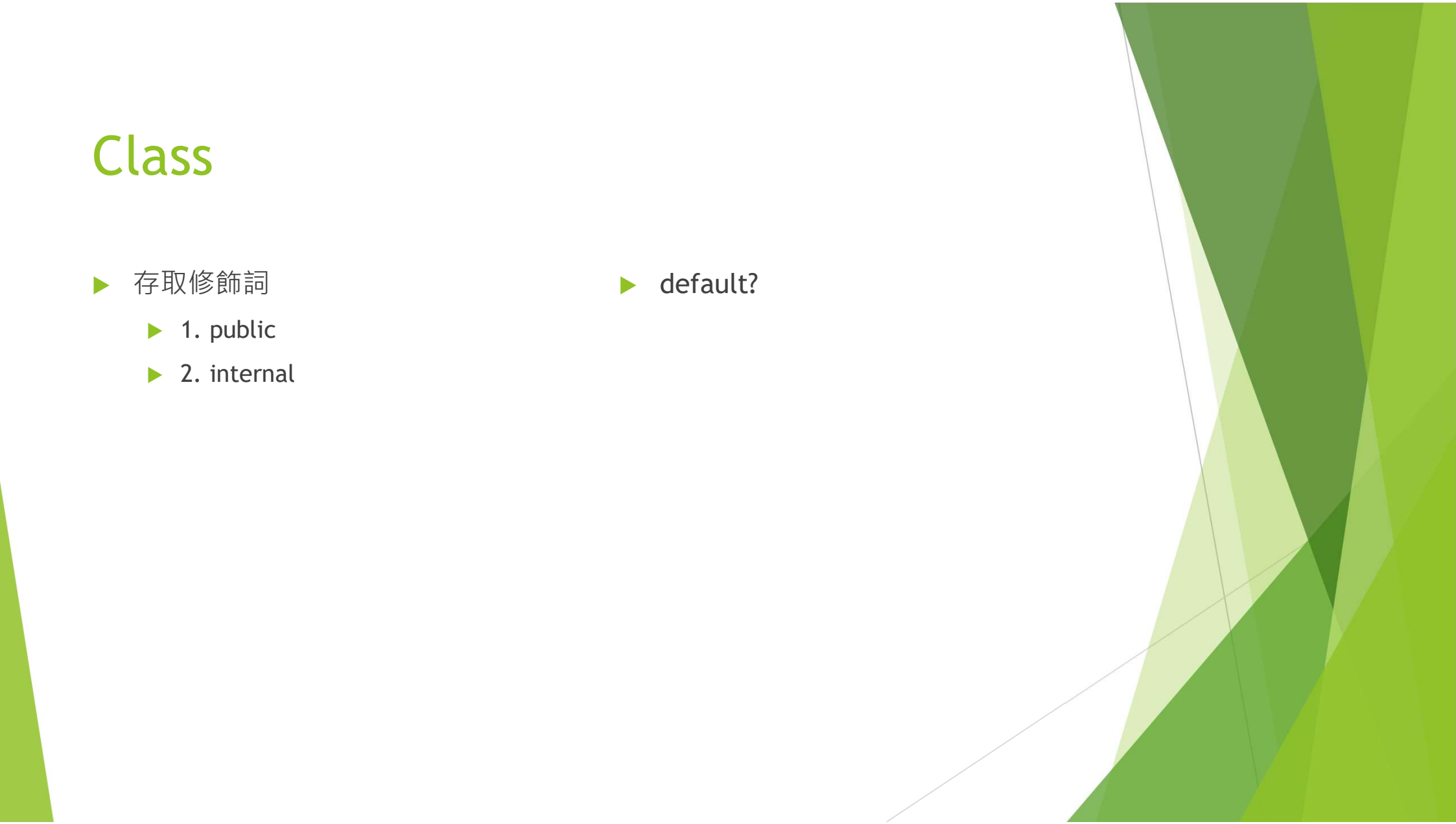
- What is definition of internal ?

Class

類別

Class

- 存取修飾詞
  - 1. public
  - 2. internal
- default?



What class can not use protected、private ?

Class

- 1. Constructor – 建構式
- 2. Filed – 欄位
- 3. Property – 屬性
- 4. Constant – 常數
- 5. Method – 方法
- 6. Indexer – 索引子
- 7. Nested Type – 子型別

- 8. delegate – 委派
- 9. Operator – 運算子
- 10. Event – 事件
- 11. Finalizer – 解構式

Constructor

建構式

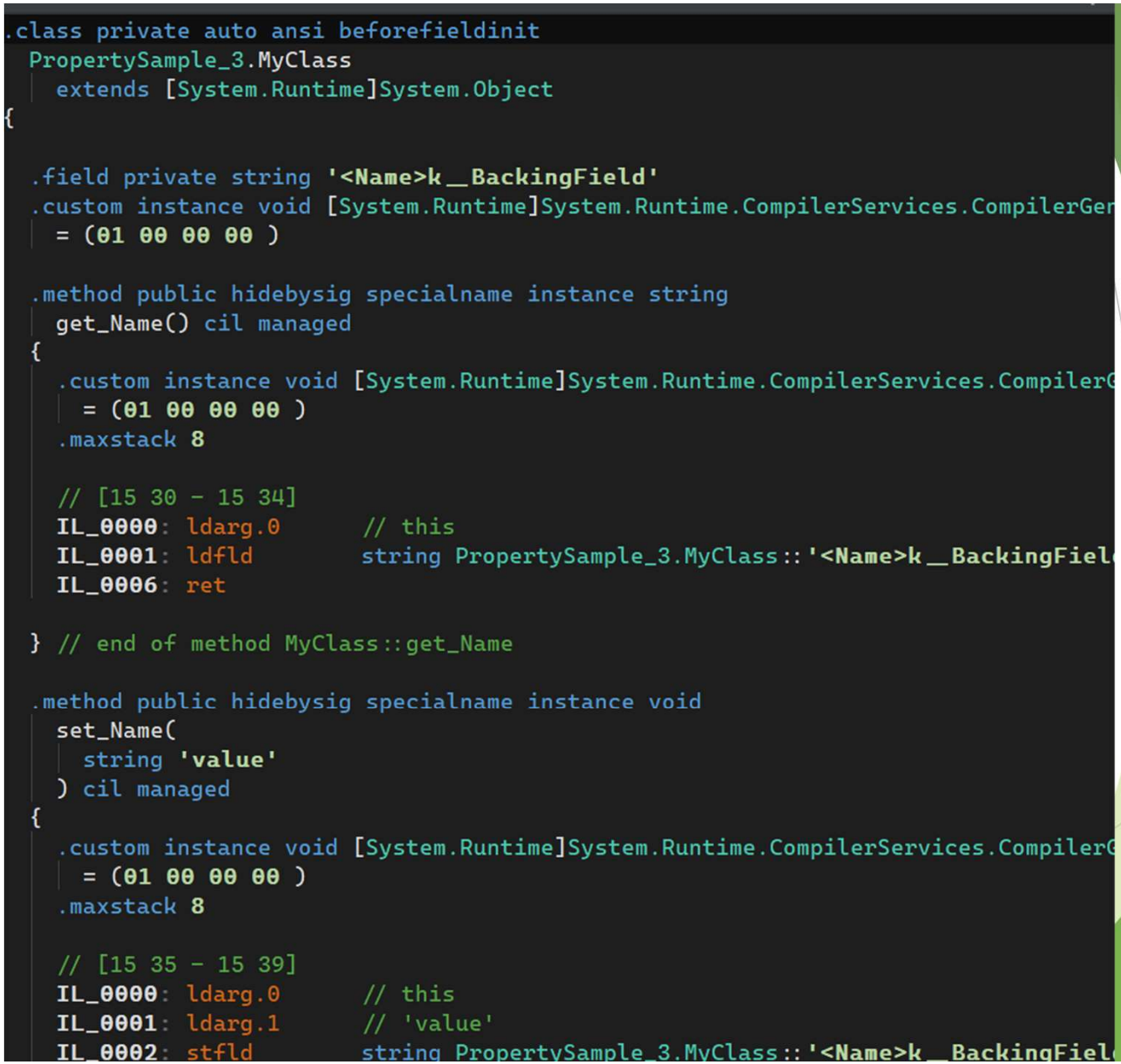
Filed

欄位

```
7
8   namespace FiledSample
9   {
10      internal class MyClass
11      {
12          private string _name;
13
14          public MyClass()
15          {
16              this._name = "123";
17              base..ctor();
18              this._name = "3455";
19          }
20
21          public MyClass(string name)
22          {
23              this._name = "123";
24              base..ctor();
25              this._name = "asd";
26          }
27
28          public MyClass(string name, int index)
29          {
30              this._name = "123";
31              base..ctor();
32              this._name = "zzx";
33          }
34
35          public string GetName()
36          {
37              return this._name;
38          }
39      }
40  }
41
```

Property

屬性


.class private auto ansi beforefieldinit
PropertySample_3.MyClass
extends [System.Runtime]System.Object
{
.field private string '<Name>k__BackingField'
.custom instance void [System.Runtime]System.Runtime.CompilerServices.CompilerGer
= (01 00 00 00)
.method public hidebysig specialname instance string
get_Name() cil managed
{
.custom instance void [System.Runtime]System.Runtime.CompilerServices.CompilerG
= (01 00 00 00)
.maxstack 8
// [15 30 - 15 34]
IL_0000: ldarg.0 // this
IL_0001: ldfld string PropertySample_3.MyClass::'<Name>k__BackingFiel
IL_0006: ret
} // end of method MyClass::get_Name
.method public hidebysig specialname instance void
set_Name(
string 'value'
) cil managed
{
.custom instance void [System.Runtime]System.Runtime.CompilerServices.CompilerG
= (01 00 00 00)
.maxstack 8
// [15 35 - 15 39]
IL_0000: ldarg.0 // this
IL_0001: ldarg.1 // 'value'
IL_0002: stfld string PropertySample_3.MyClass::'<Name>k__BackingFiel

Constants

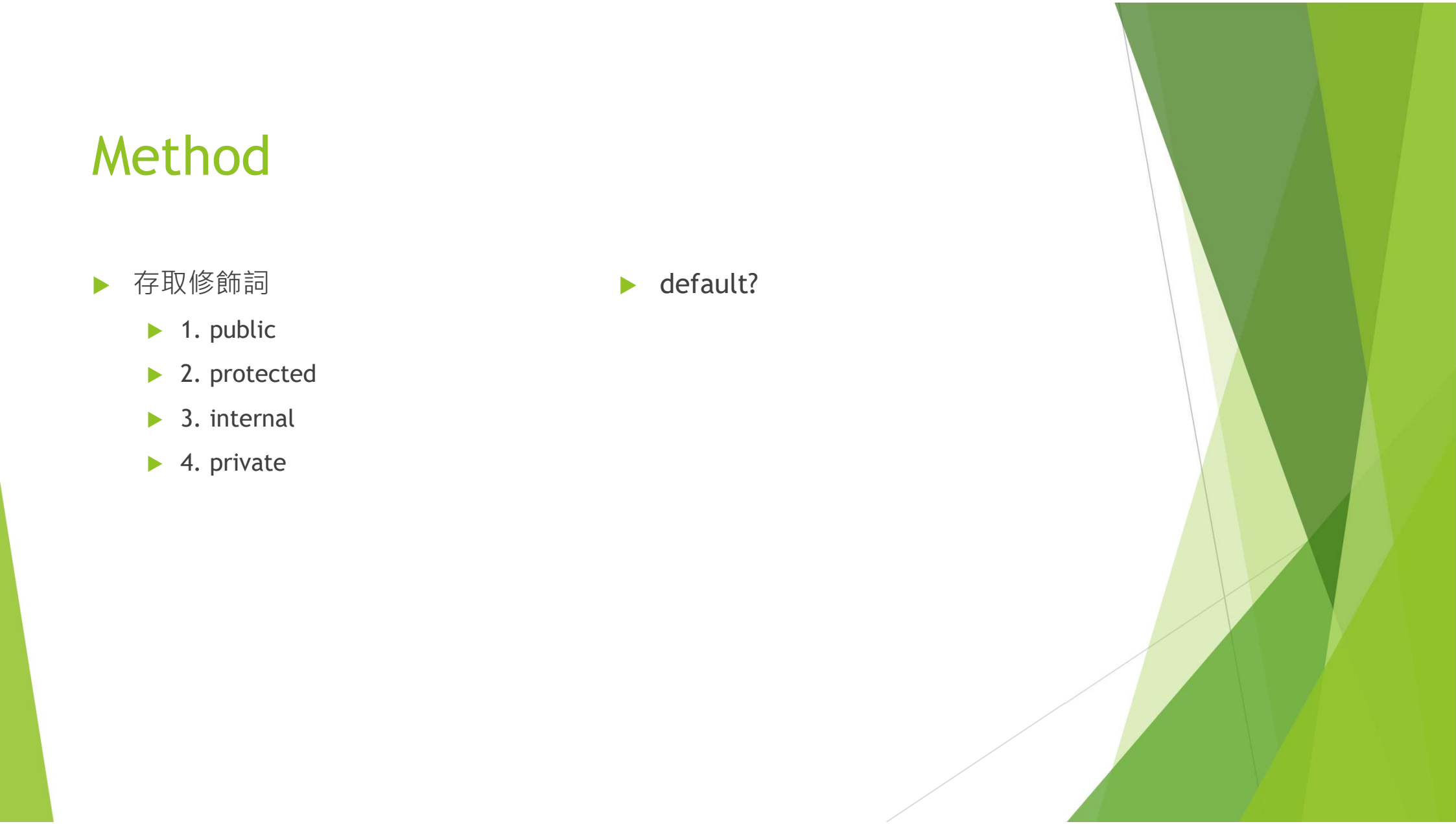
常數

Method

方法

Method

- 存取修飾詞
  - 1. public
  - 2. protected
  - 3. internal
  - 4. private
- default?



Method

- 方法存取
  - 1. Parameter
  - 2. Argument

Method

- overloading(多載)

Method

- 方法簽章

Method

- Named Argument(具名引數)
- Optional Argument(選擇性引數)
- params

ref、out

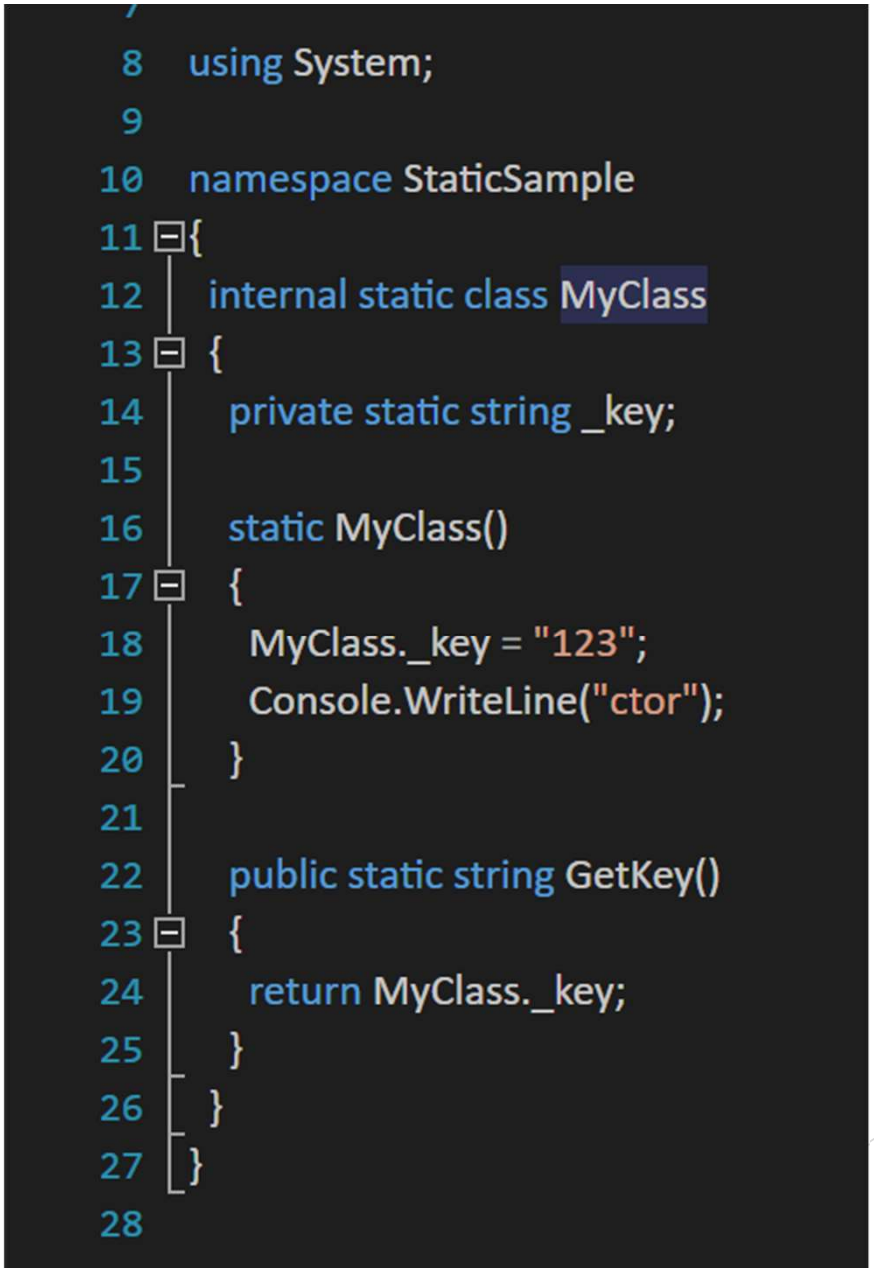
Indexer

索引子

Nested Type

巢狀型別

static class



```
using System;

namespace StaticSample
{
    internal static class MyClass
    {
        private static string _key;

        static MyClass()
        {
            MyClass._key = "123";
            Console.WriteLine("ctor");
        }

        public static string GetKey()
        {
            return MyClass._key;
        }
    }
}

```

static class

- 1. Constructor

static class

- extension method

Q&A

Filed vs Property vs Method

- 什麼時候適合使用哪個？

Constants vs Readonly Filed

- 什麼時候適合使用哪個？