

# Syllabus

- Attendance: 5%
- Homework: 20%
- Midterm Exam: 30%
- Presentations : 10%
- Group Report: 40%, 2 students in one group
- 4/20 Midterm exam
- (5/4)11<sup>th</sup> week for report title and group members
- (5/18)13<sup>th</sup> week for report proposal (3~4 pages)
- (6/22)Final term week for presentation and demo
- Uploading PPT, source code and job assignment is necessary



# Chapter 1

**Visual Studio &  
Console Application Programming**



## 1.1 Introduction to Visual C#

- **Use C/C++ to develop business software**
  - ⇒ **High cost**
- **Upcoming Internet age, the ideal programming language**
  - ⇒ **Rapid development**
  - ⇒ **Synchronize with new Web standard, cross-platform**
  - ⇒ **ability to design mobile application**
  - ⇒ **easy to combine with existing application**
- **Visual C# are born**



# 1.1 Introduction to Visual C#

[Continue...](#)

- C# is read as C Sharp
- Designed for .NET Framework
- As powerful as C&C++ and as easy-to-use as VB
- The first component-based programming language
- 95% compatible with C++ and more similar with Java
- Customized for C++ programmer



# Attribute of C#

[Continue...](#)

- **Be able to build**
  - ① **Traditional Windows client application**
  - ⑥ **Distributed components**
  - ⑦ **Client-server application**
  - ⑧ **Database application and more**

# Attribute of C#

Continue...

- **C# offers advanced**
  - ① **Source code editor**
  - ② **User interface design tool**
  - ③ **Integrated debugging tool and other tools**
- **Easy to realize C# grammar and start working with knowing C, C++ or Java well**

# How to Download VS201X



## NCKU Download Center

| 首頁 | Windows 作業系統 | Office 系列 | Visual Studio 系列 | Autodesk 系列 | Matlab 系列 | 防毒軟體 | 其他軟體 | 軟體序號 | 聯絡我們 |

### Visual Studio 2015 中文專業版 Visual Studio 2015 Cht Version

☑ Visual Studio 2015 中文專業版(ISO 影像檔\_下載點1)

☑ Visual Studio 2015 中文專業版(ISO 影像檔\_下載點2)

說明: DVD版本請燒錄成DVD光碟使用。

### Visual Studio 2013 中文專業版 Visual Studio 2012 Cht Version

☑ Visual Studio 2013 中文專業版(ISO 影像檔\_下載點1)

☑ Visual Studio 2013 中文專業版(ISO 影像檔\_下載點2)

說明: DVD版本請燒錄成DVD光碟使用。



# Console Application

- **As executed**

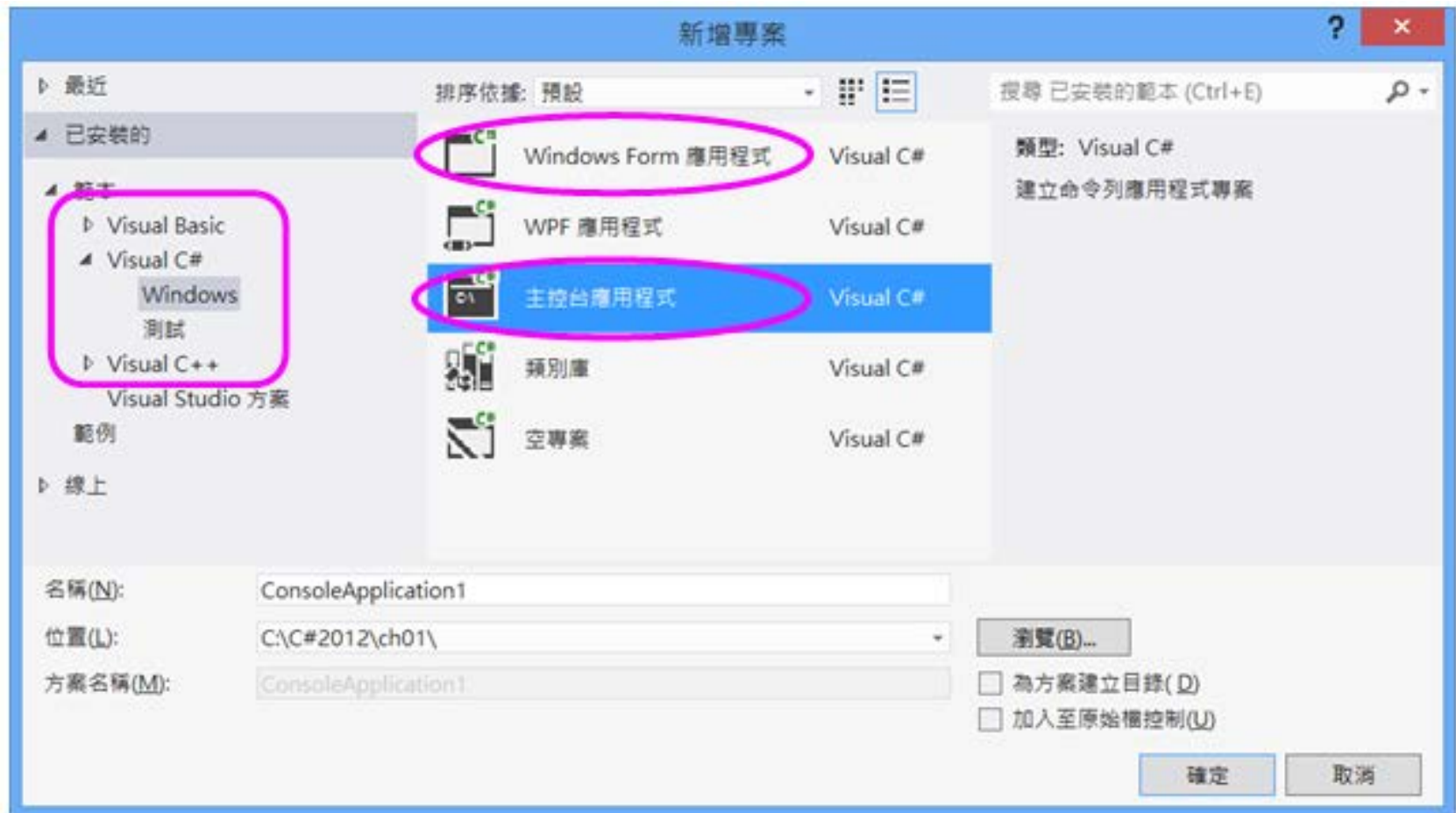
- ⇒ **Traditional DOS text-only command line environment**
- ⇒ **Only develop programs which output text information**
- ⇒ **Low resources used**
  - ⇒ **Higher performance than Windows Form**

**Applications**



# 1.3 Introduction to Console Application

## 1.3.1 New project

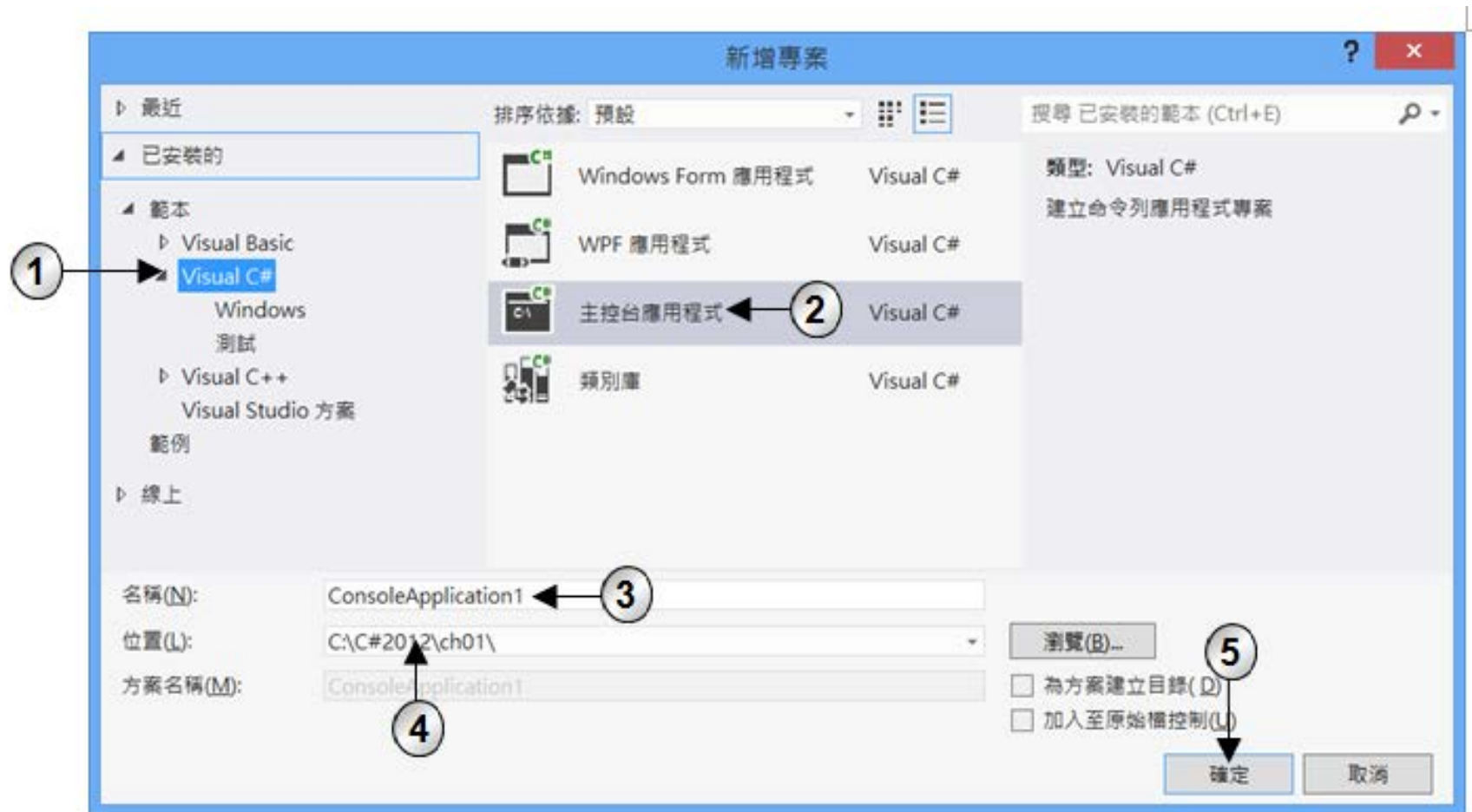




## **1.3.1 New project**

- **Console Application**  
The program for Console mode, in other words, the program run in the tradition DOS
- **Windows Form Application**  
The program for Windows environment

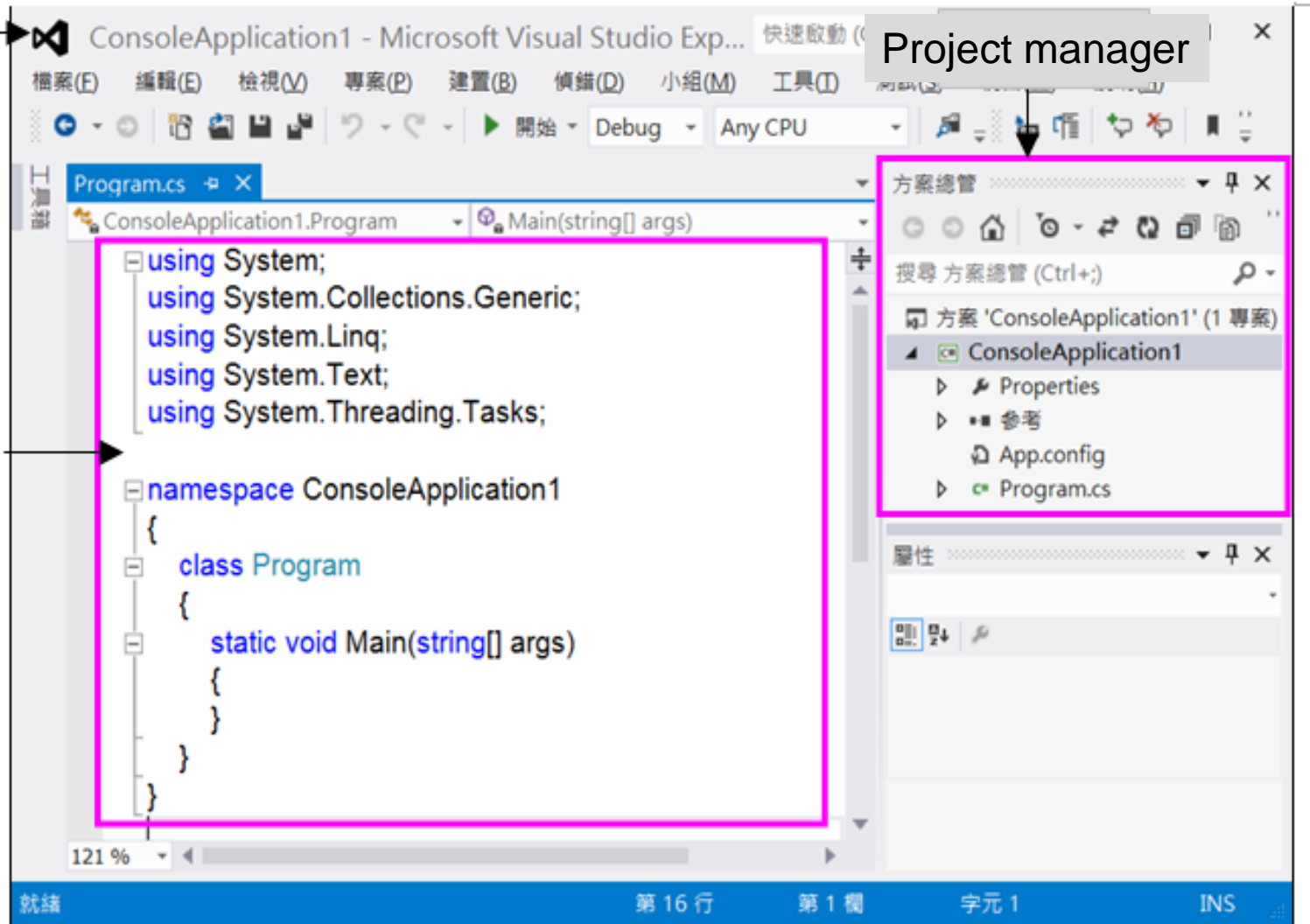
# Create Console Application Project



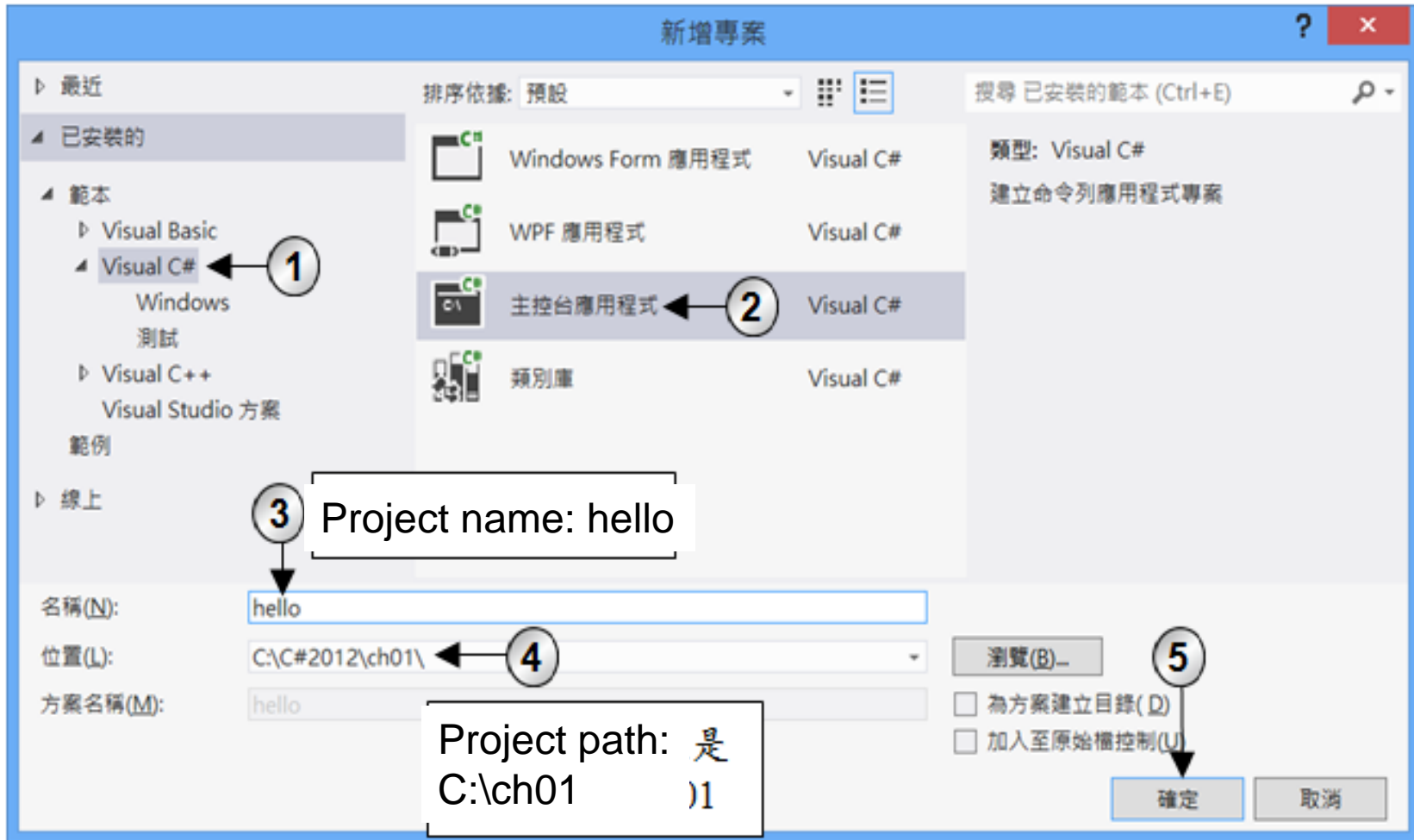
# Console development IDE

Project name

Code editor



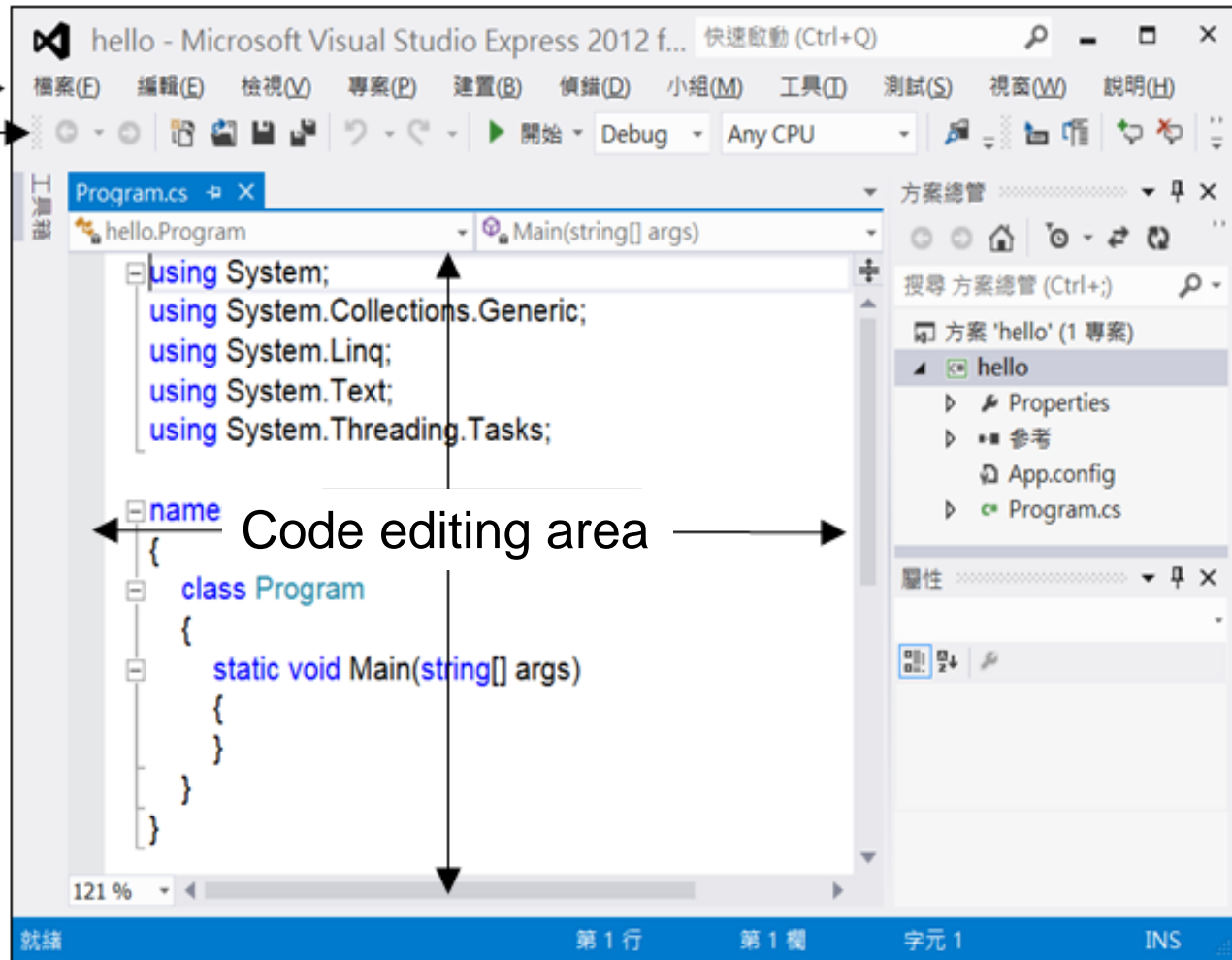
# New project



# Code editor window

Menu bar

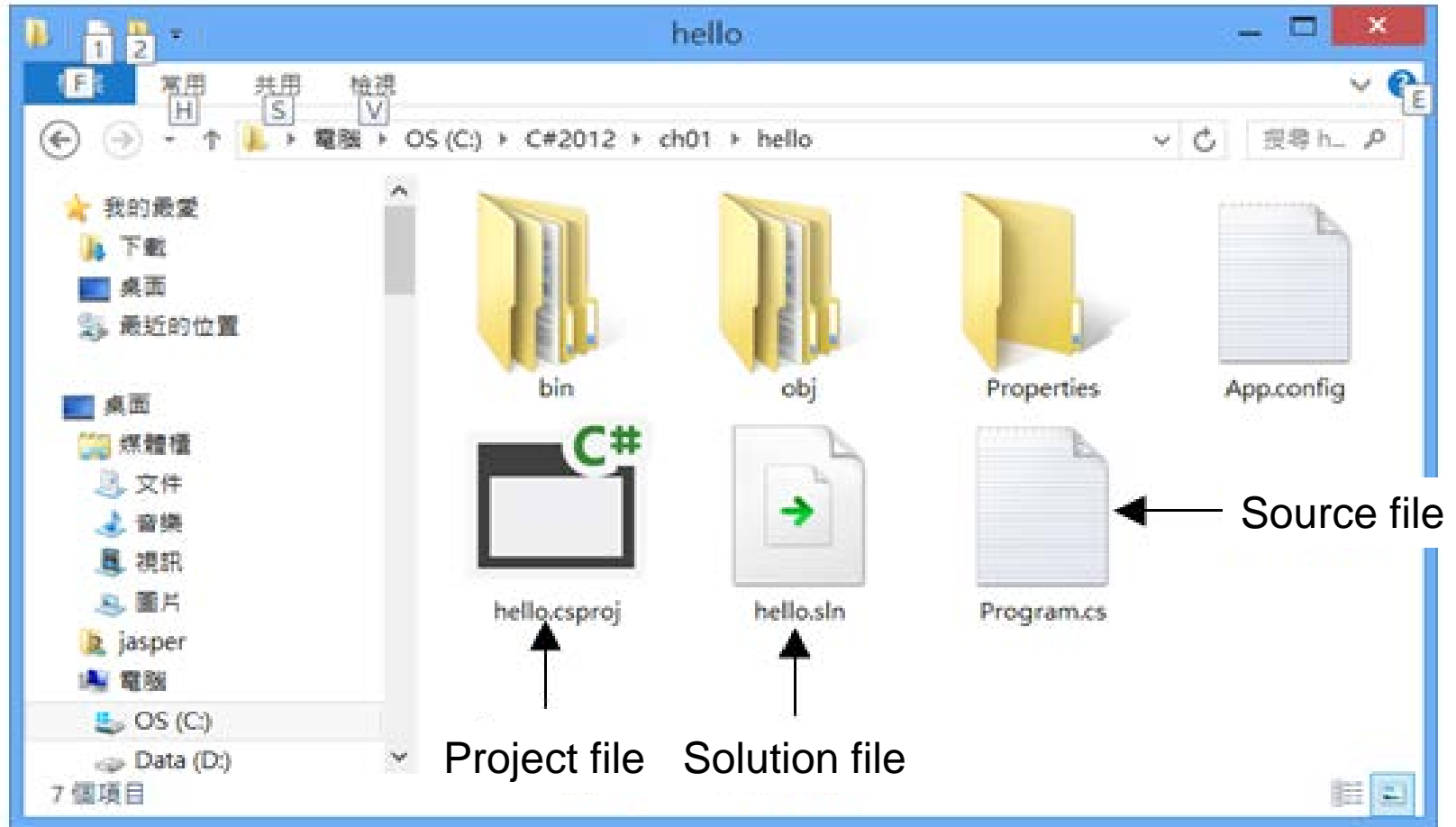
Standard  
toolbar



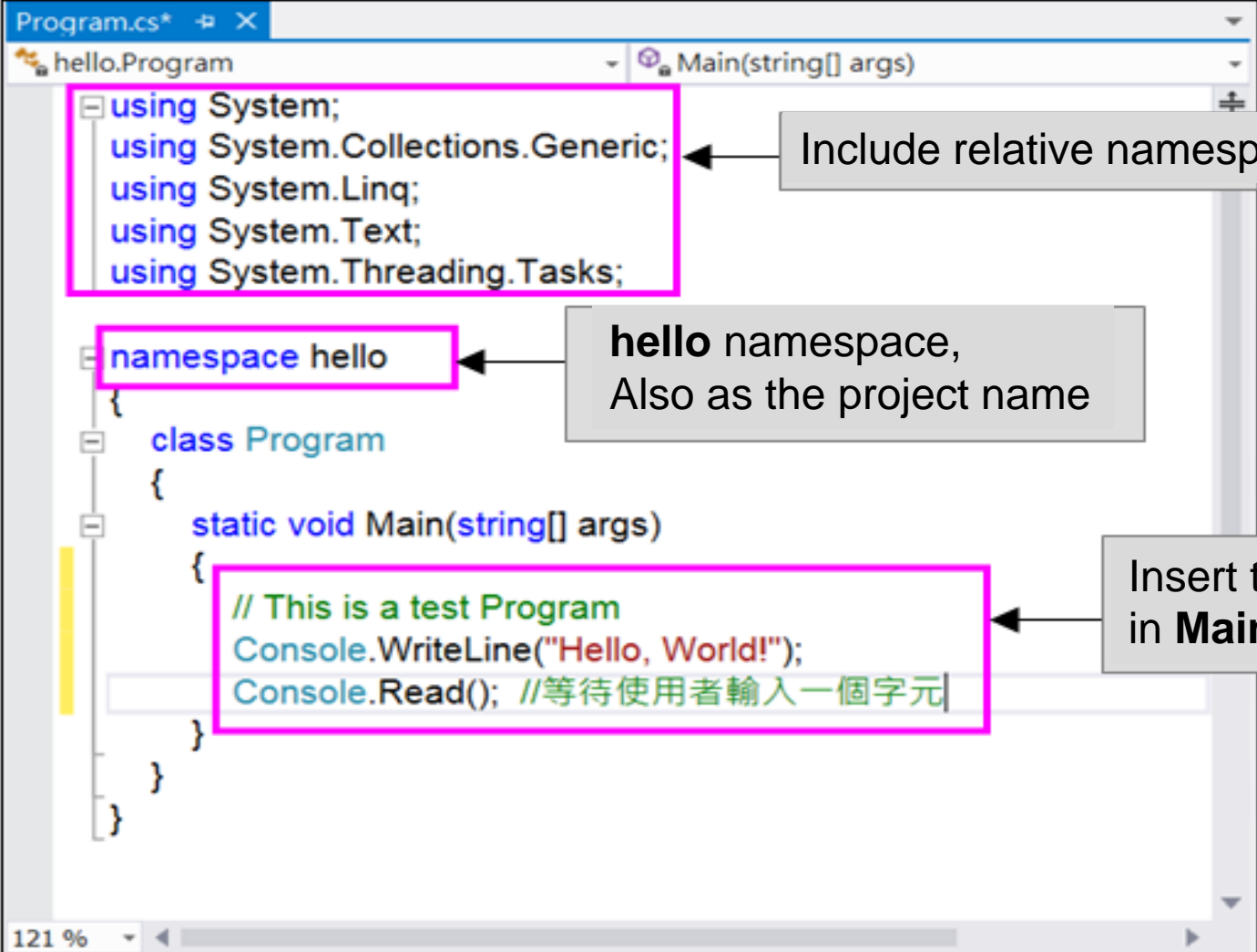
Project  
manager

Property  
window

# Important files



# Writing Codes



The image shows a screenshot of a C# code editor window titled "Program.cs\*". The code is for a project named "hello" and a class named "Program". The code is annotated with three callouts:

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

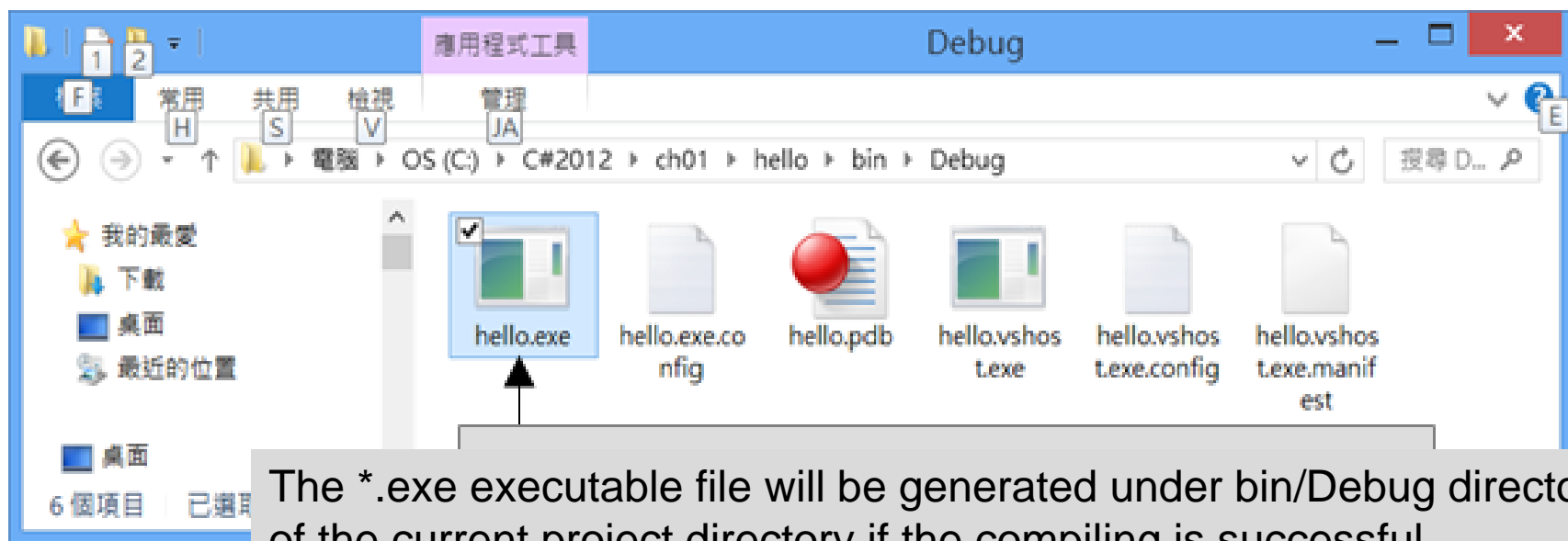
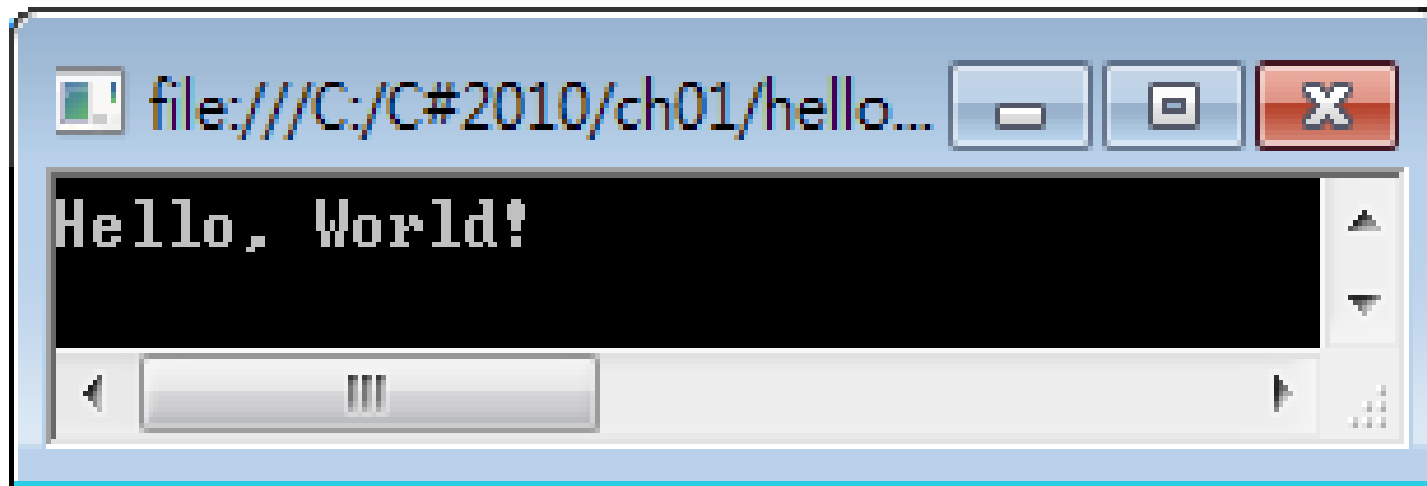
namespace hello
{
    class Program
    {
        static void Main(string[] args)
        {
            // This is a test Program
            Console.WriteLine("Hello, World!");
            Console.Read(); //等待使用者輸入一個字元
        }
    }
}
```

Annotations:

- Include relative namespace**: Points to the `using` statements.
- hello namespace, Also as the project name**: Points to the `namespace hello` declaration.
- Insert these statement in **Main** function**: Points to the code inside the `Main` method.

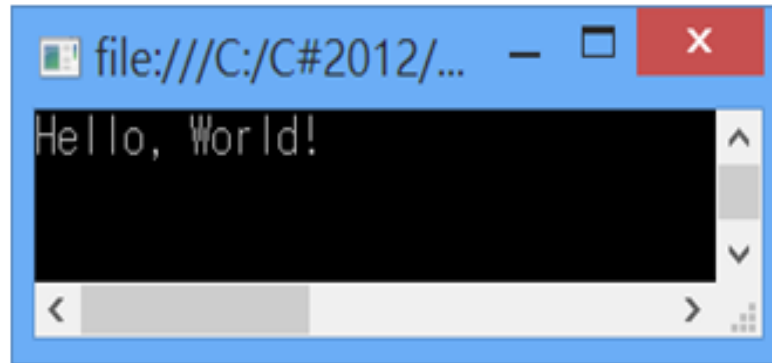
The code is displayed at 121% zoom.



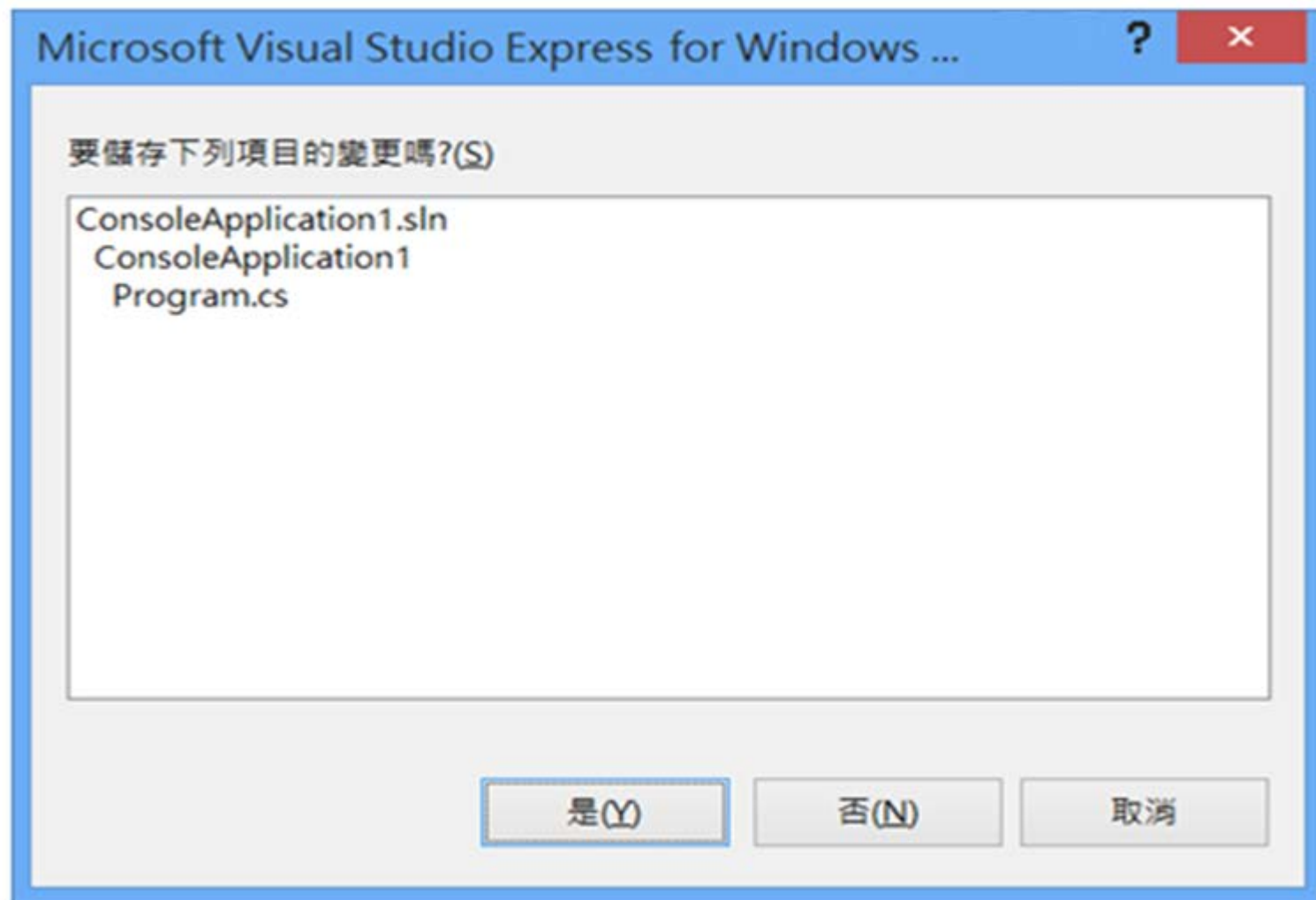


## 1.4 First Console Application

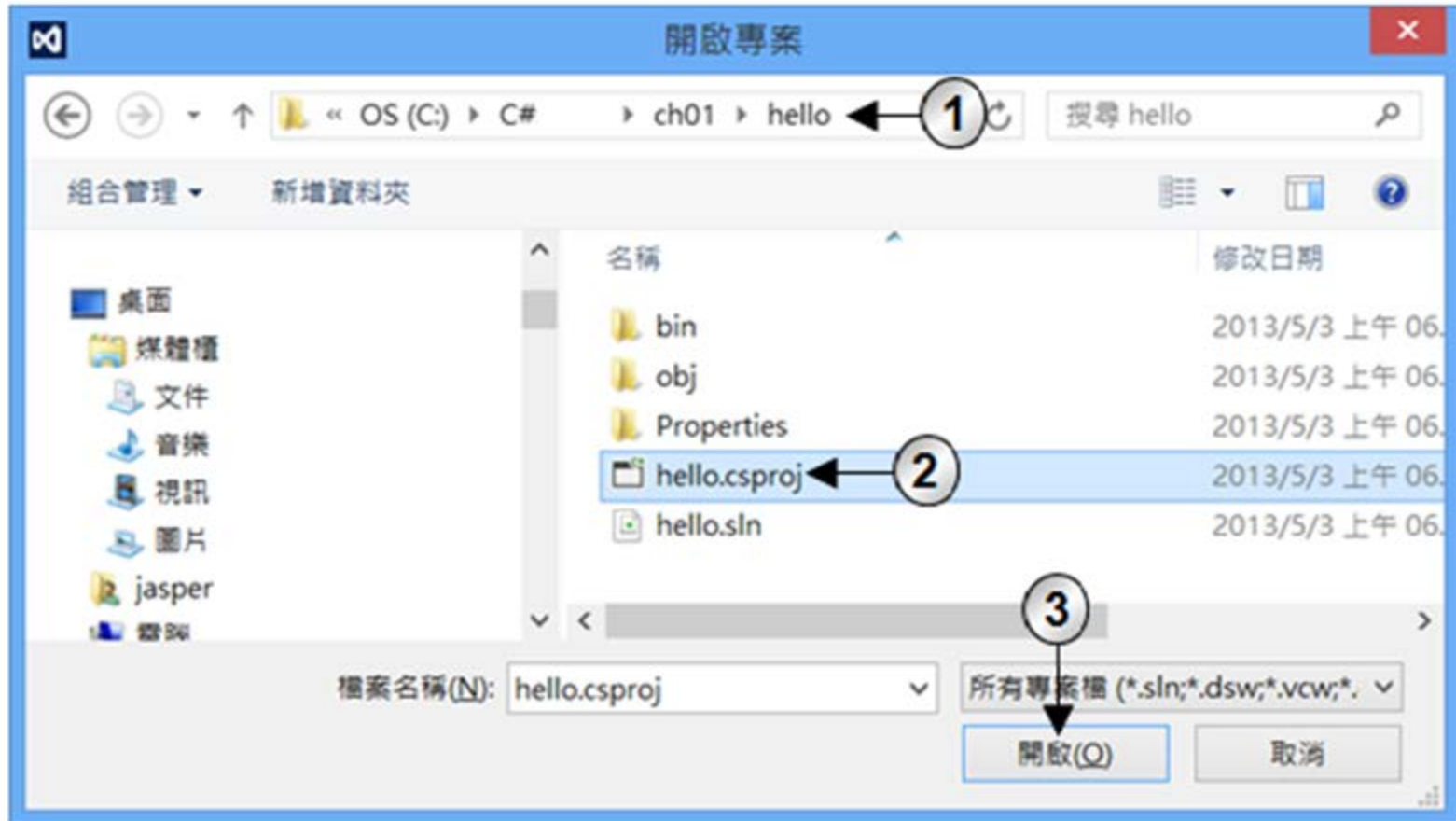
Use the steps of console application design above to write a simple program.  
To display “Hello, World!” on the screen

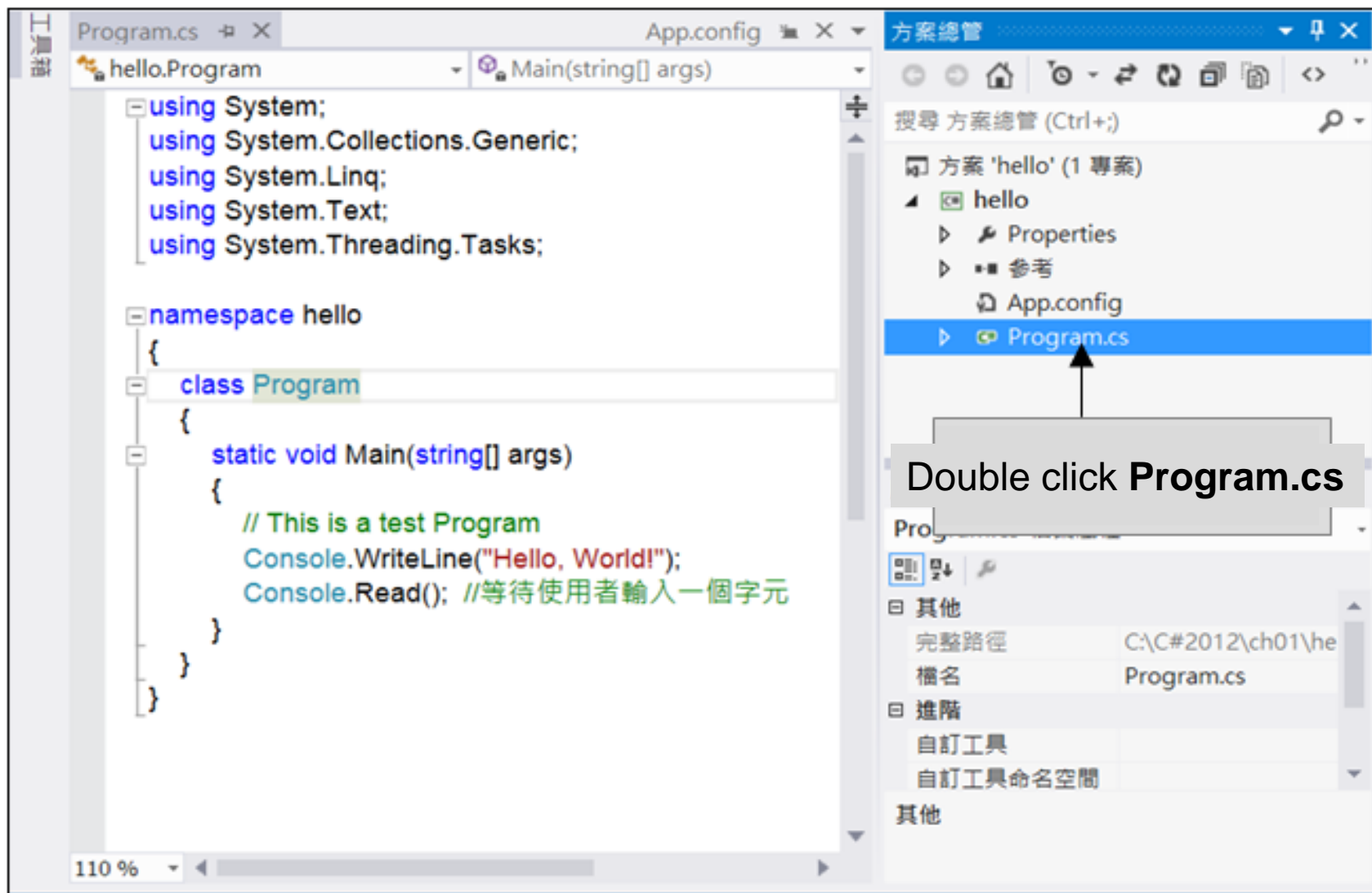


## 1.3.2 Close Project



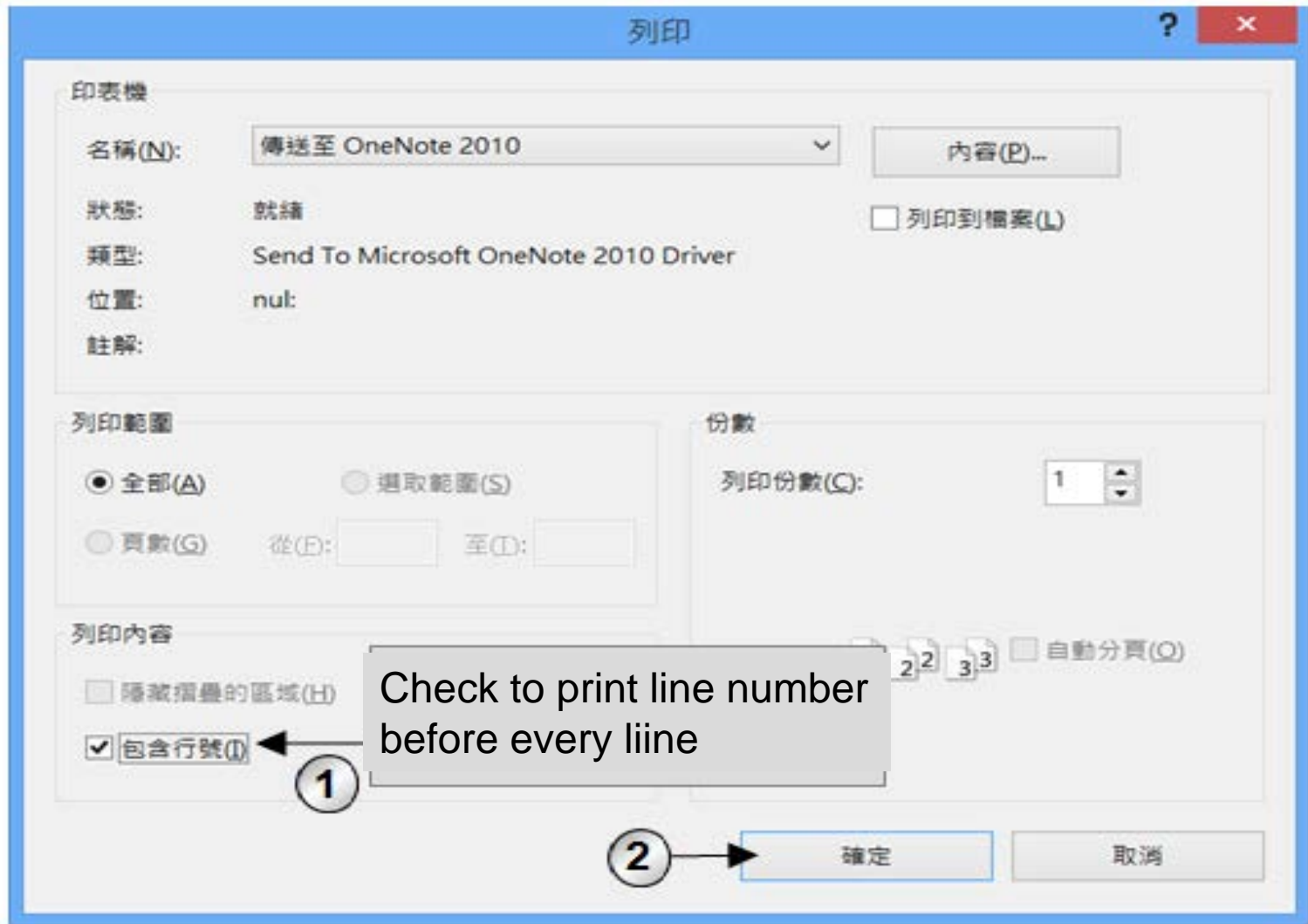
# Open Project





Console.WriteLine("hello,world!");  
Console.Read();

# Print Source Code



## Program.cs

```
-----  
01 using System;  
02 using System.Collections.Generic;  
03 using System.Linq;  
04 using System.Text;  
05  
06 namespace hello  
07 {  
08     class Program  
09     {  
10         static void Main(string[] args)  
11         {  
12             // This is a test Program  
13             Console.WriteLine("Hello, World!");  
14             Console.Read();  
15         }  
16     }  
17 }
```

## 1.5 Solution and Project

- Solution and project file is the necessities of efficient developing management in VS
- Ex: reference, data link, directory and file
  - ⇒ The user interface to view and manage these container and related items
  - ⇒ Provide **Project Manager** window in IDE



## 1.5 Solution and Project

Continue...

- As the IDE create a new project:
  - ⇒ Project extension is \*.csproj
  - ⇒ Automatically create a solution file with the same name as the project, extension is \*.sln
- A solution can include one or more projects
  - ⇒ The system automatically takes the first created project as the **initial project**
- A solution include one or more projects and the files and meta-data to define projects
  - ⇒ Putting all related files which includes system files, images, data and sounds in the same directory is recommended for duplication and management



# Thank you

Take a Break ...