

Difference between Compiler and Interpreter

No	Compiler	Interpreter
1	Compiler Takes Entire program as input	Interpreter Takes Single instruction as input .
2	Intermediate Object Code is Generated	No Intermediate Object Code is Generated
3	Conditional Control Statements are Executes faster	Conditional Control Statements are Executes slower
4	Memory Requirement : More (Since Object Code is Generated)	Memory Requirement is Less
5	Program need not be compiled every time	Every time higher level program is converted into lower level program
6	Errors are displayed after entire program is checked	Errors are displayed for every instruction interpreted (if any)
7	Example : C Compiler	Example : BASIC

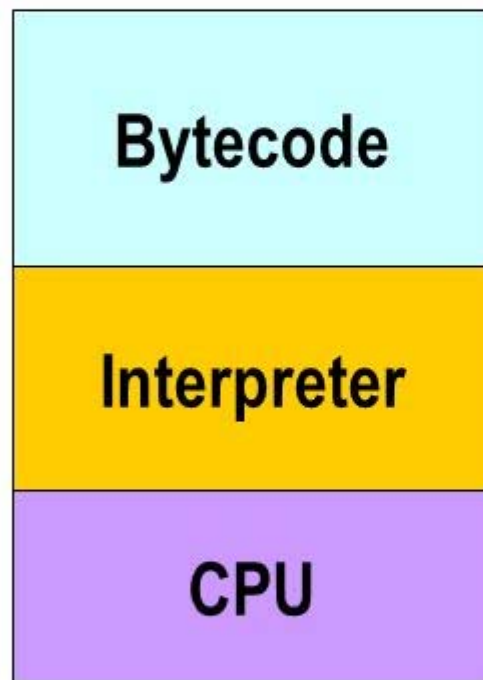
Compiler



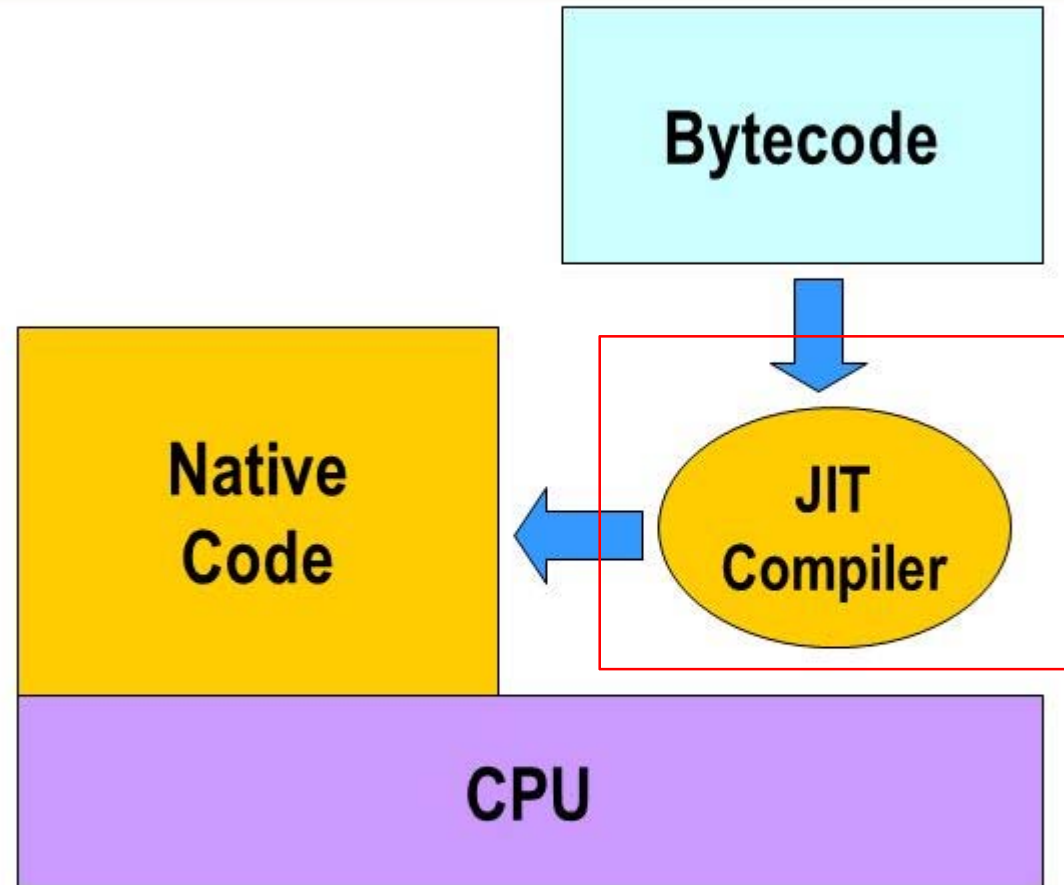
Interpreter



Interpreter vs Just-In-Time Compiler



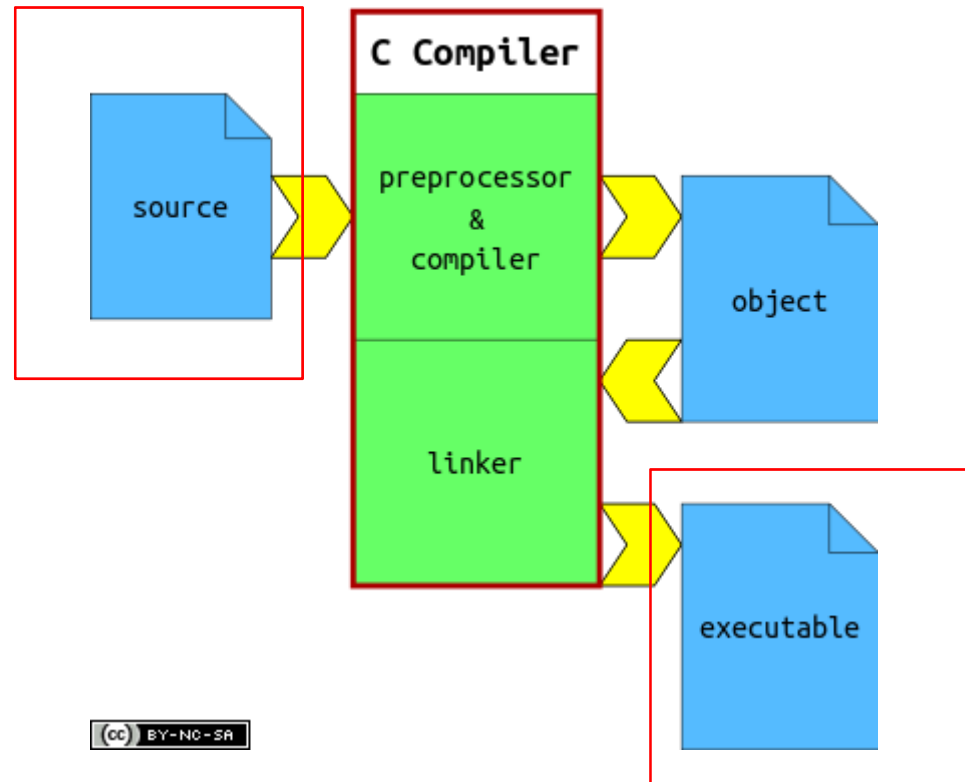
Interpretation

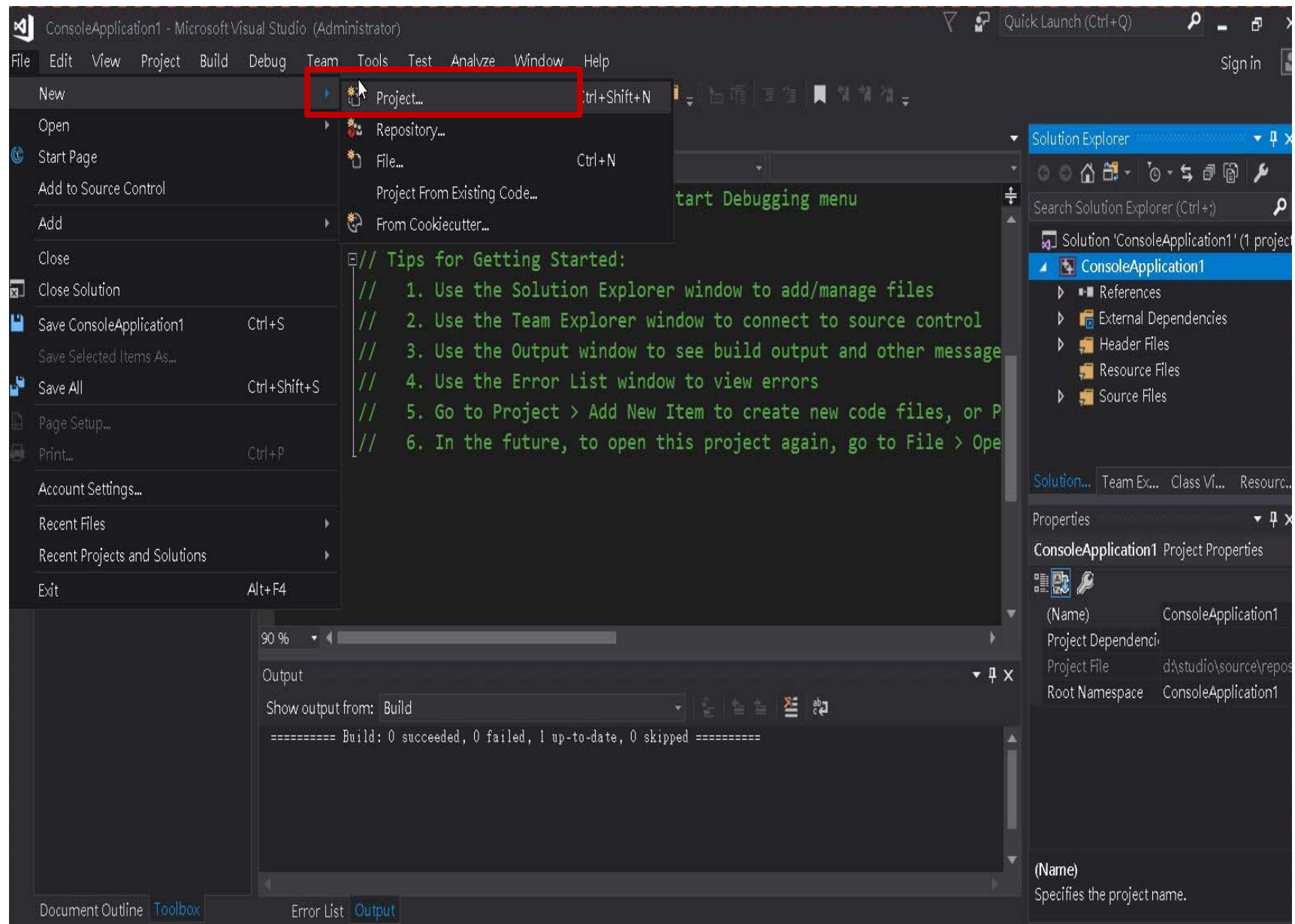


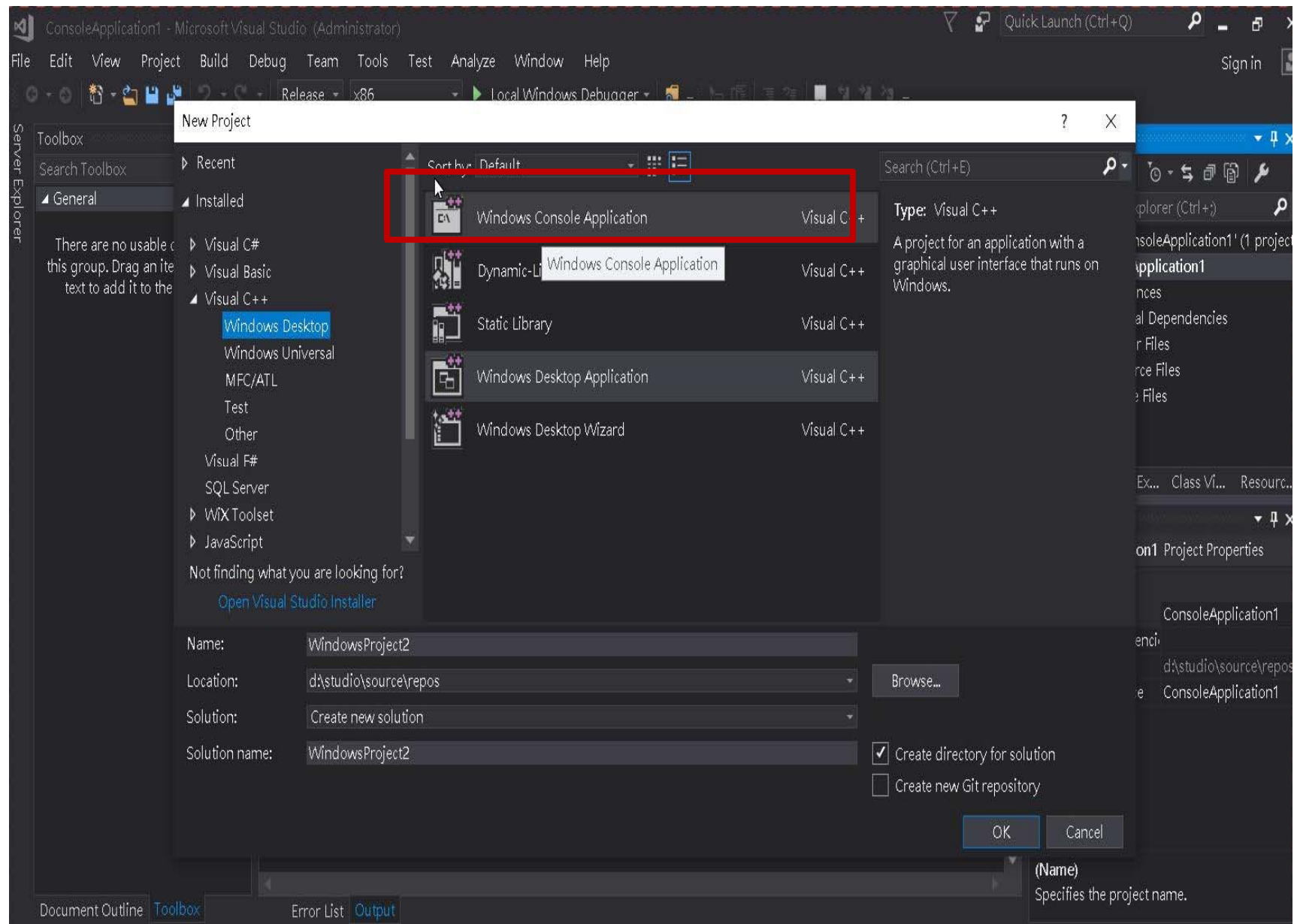
JIT Compilation

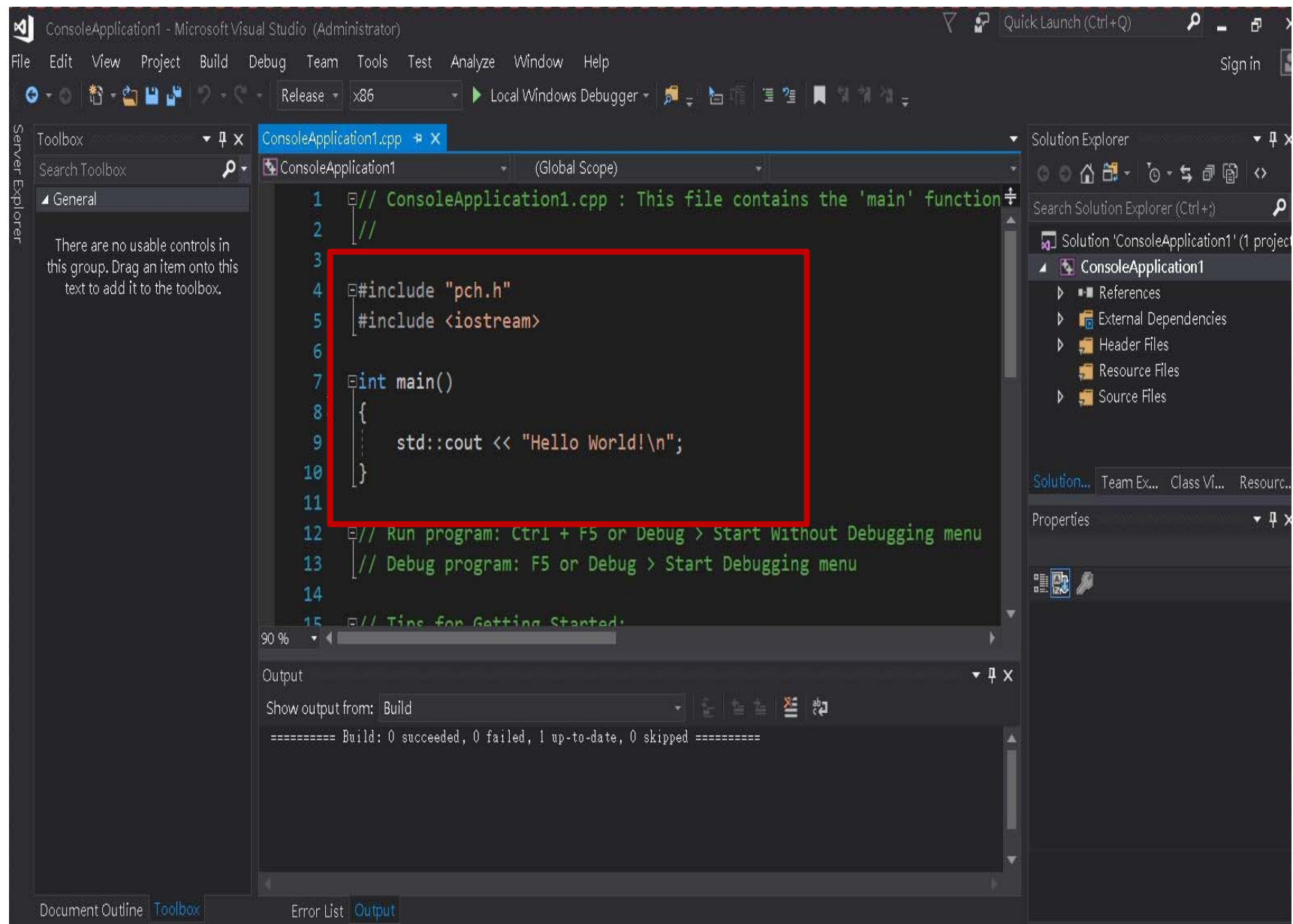
IDE(Visual Studio)

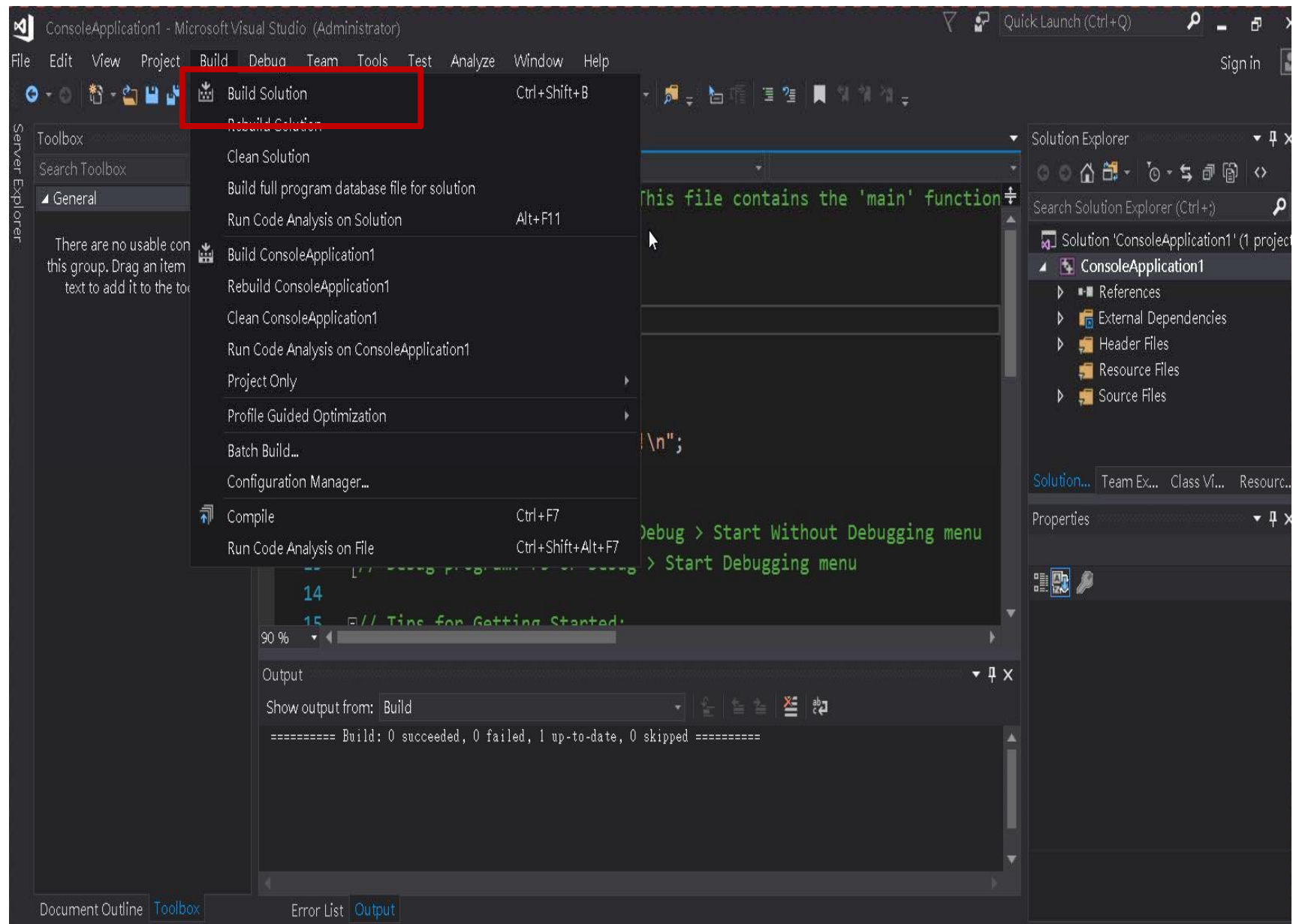
C COMPILE

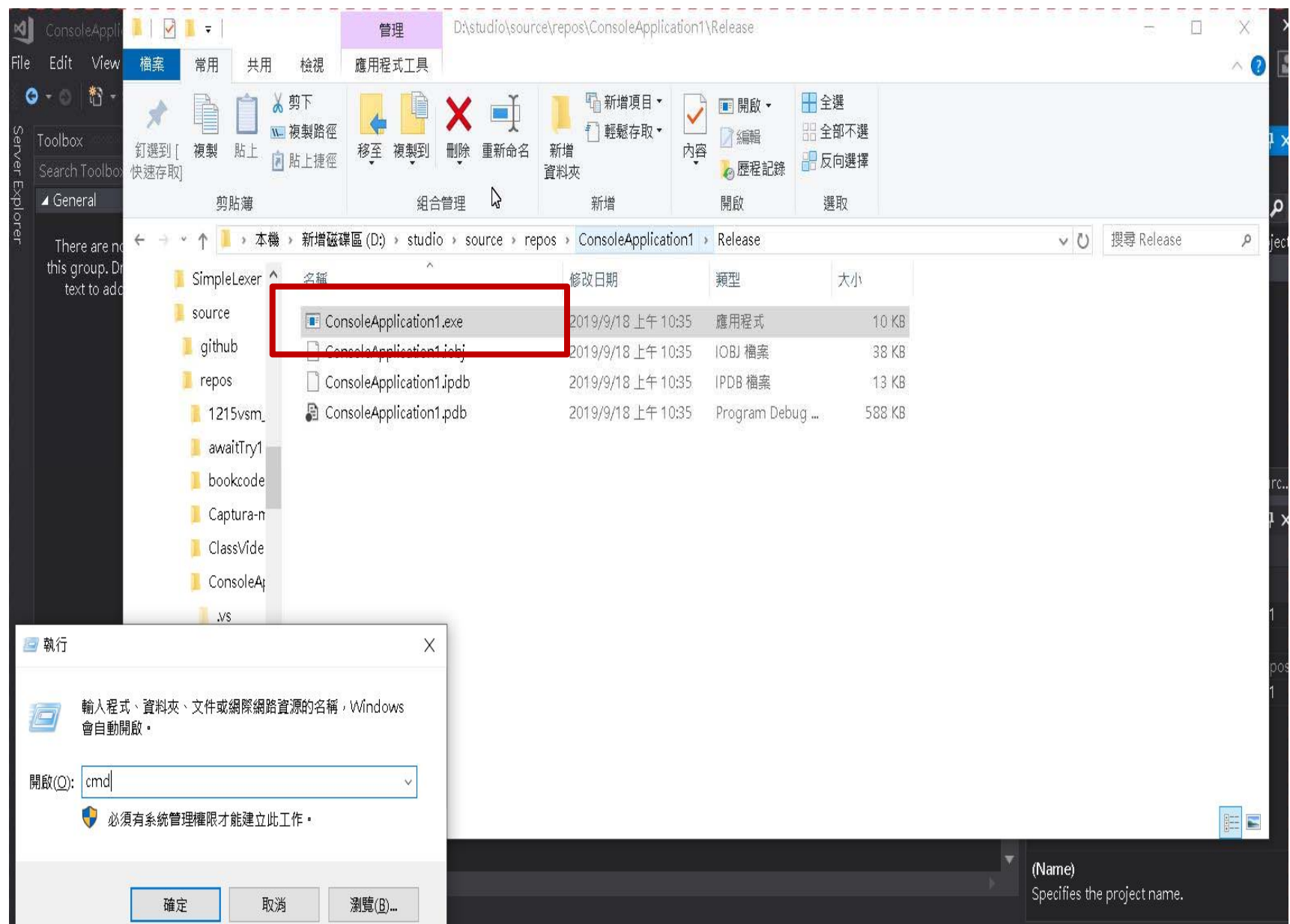


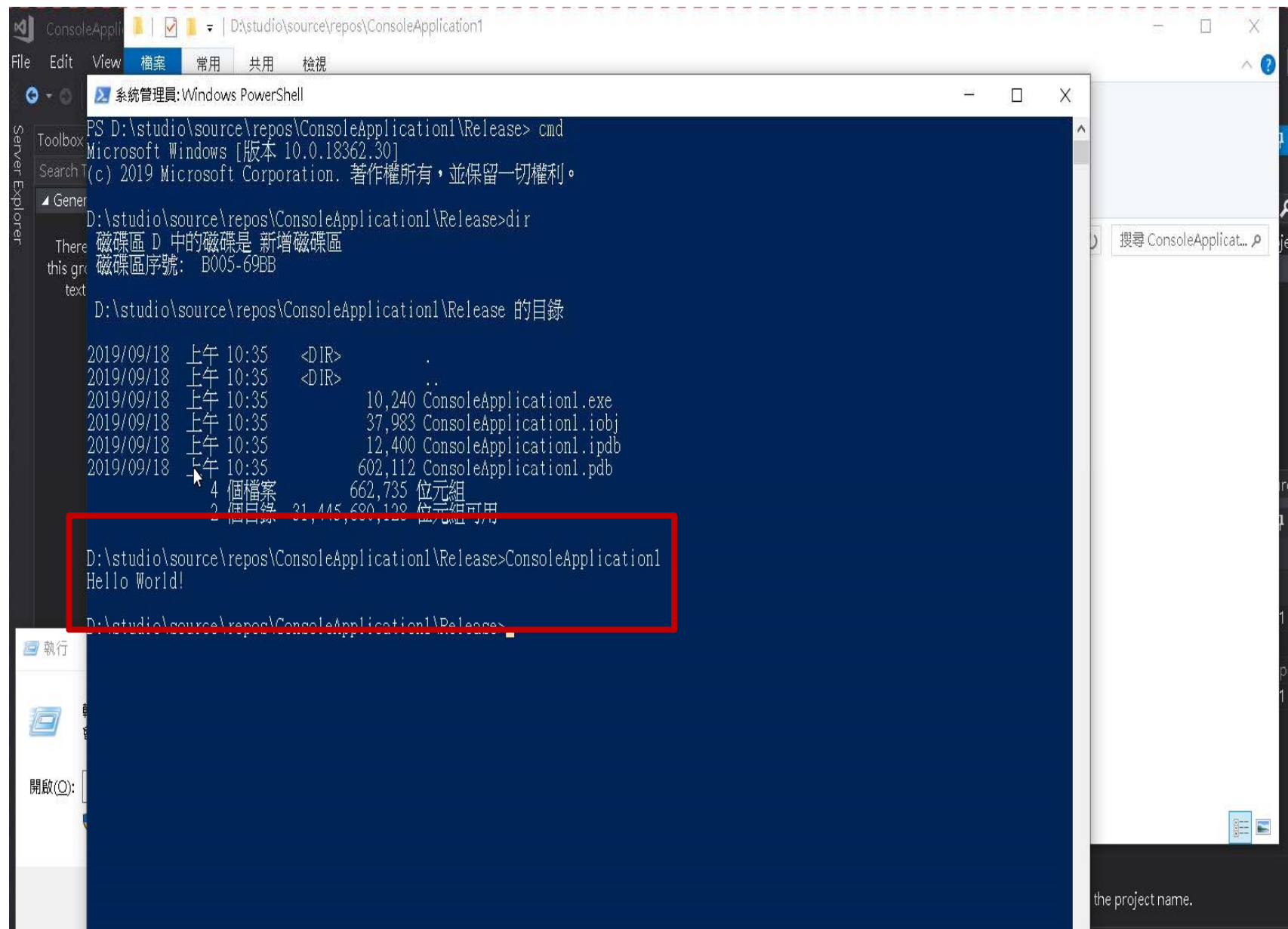






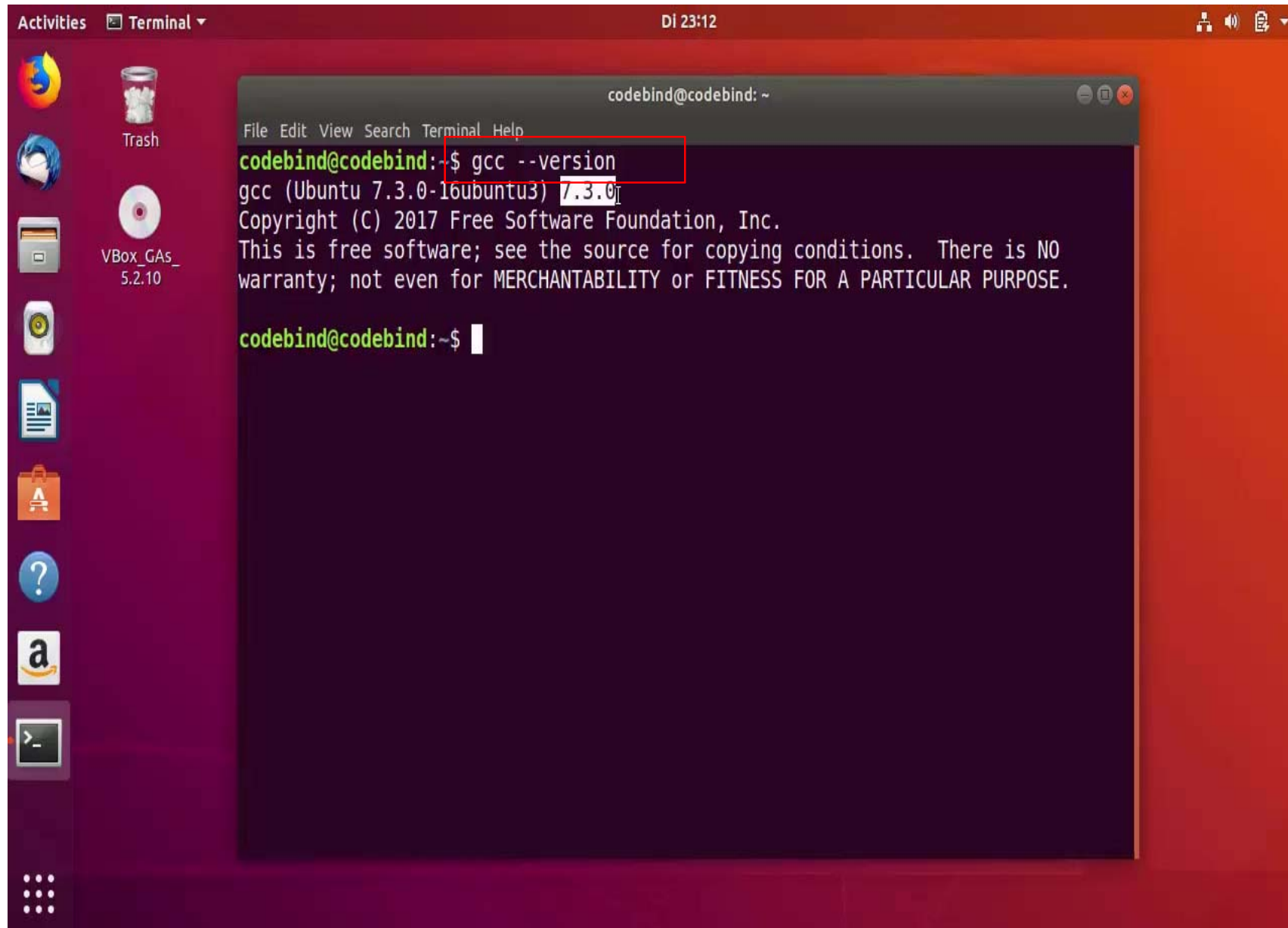


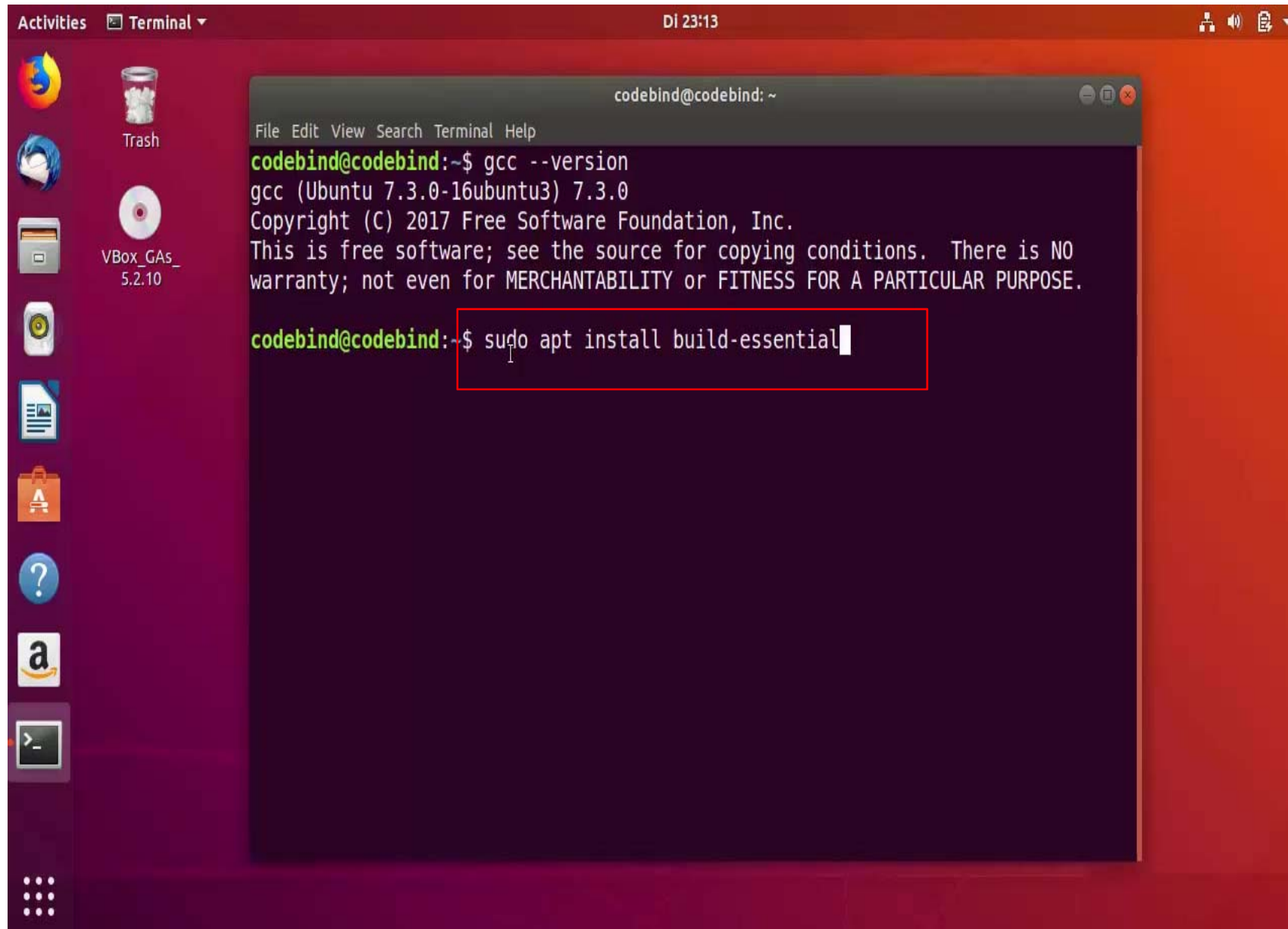




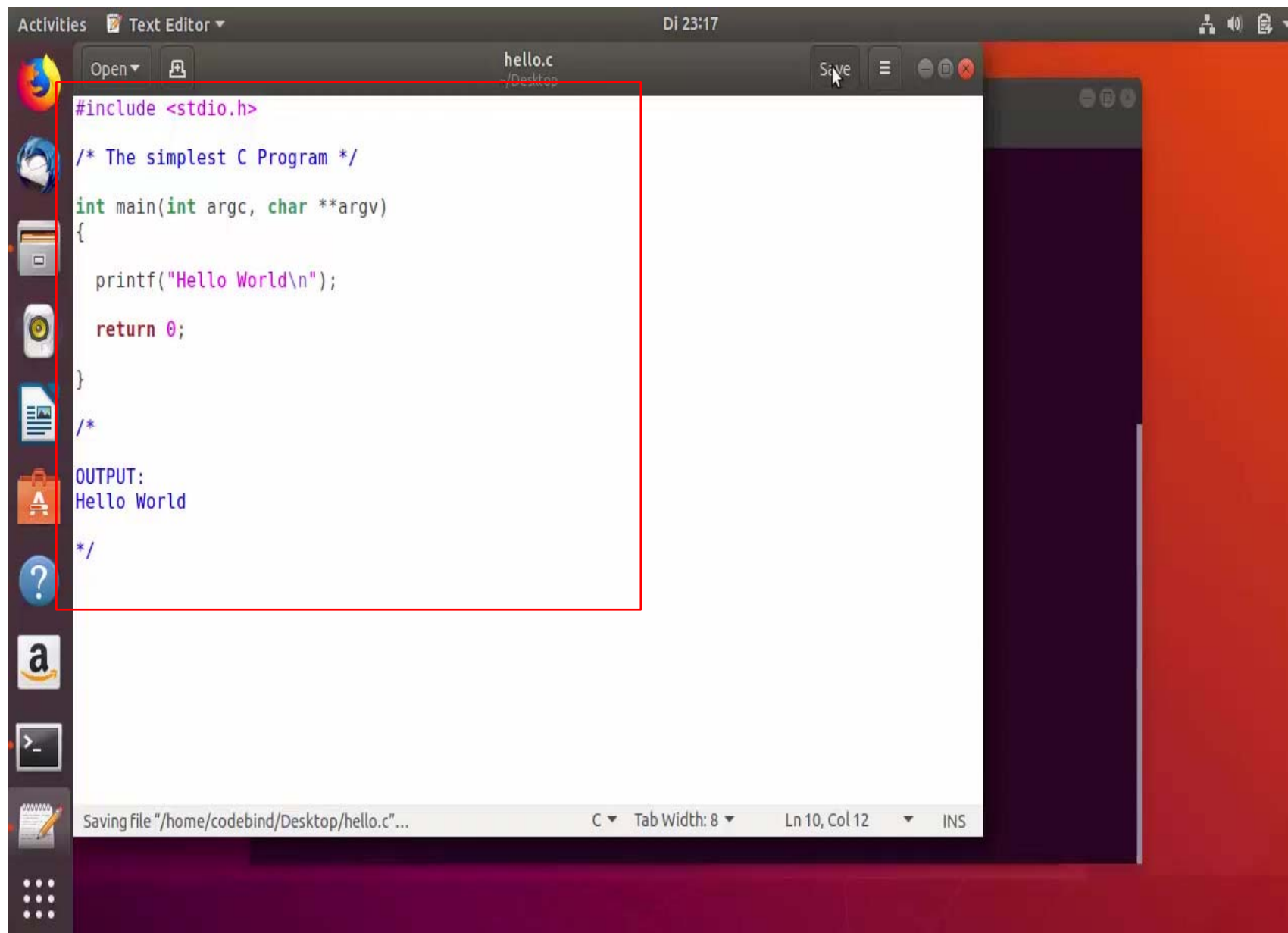
linux GCC command line

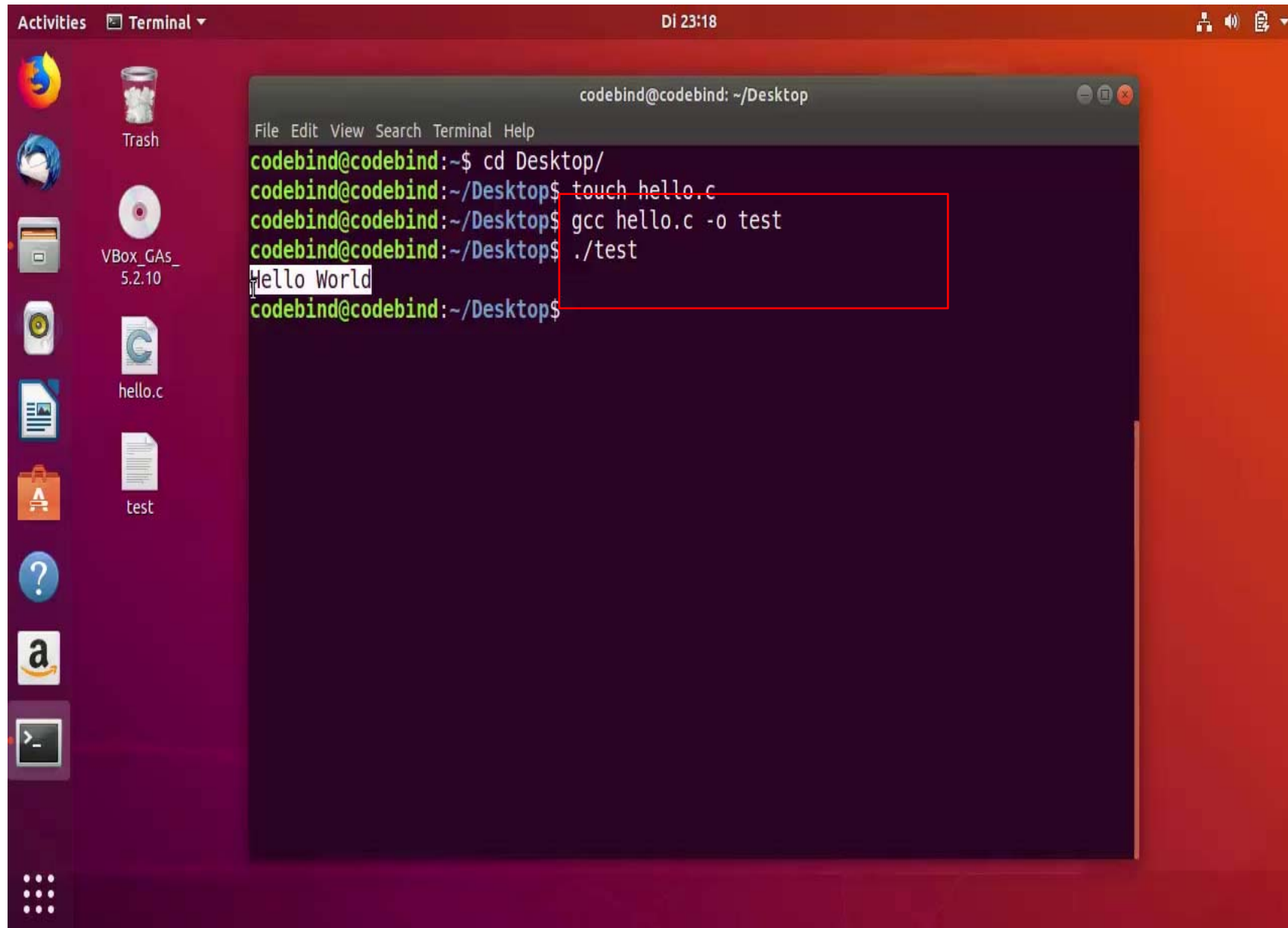
C COMPILE





```
codebind@codebind: ~  
File Edit View Search Terminal Help  
codebind@codebind:~$ gcc --version  
gcc (Ubuntu 7.3.0-16ubuntu3) 7.3.0  
Copyright (C) 2017 Free Software Foundation, Inc.  
This is free software; see the source for copying conditions. There is NO  
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  
codebind@codebind:~$ sudo apt install build-essential
```





JAVA

<https://www.compilejava.net>

```
public class MyFirstJavaProgram {  
  
    /* This is my first java program.  
     * This will print 'Hello World' as the output  
     */  
  
    public static void main(String []args) {  
        System.out.println("Hello World"); // prints Hello World  
    }  
}
```

```
public class HelloWorld{  
    public static void main(String []args)  
    {  
        System.out.println("Hello World");  
    }  
}
```

一般系統上已經有java run time

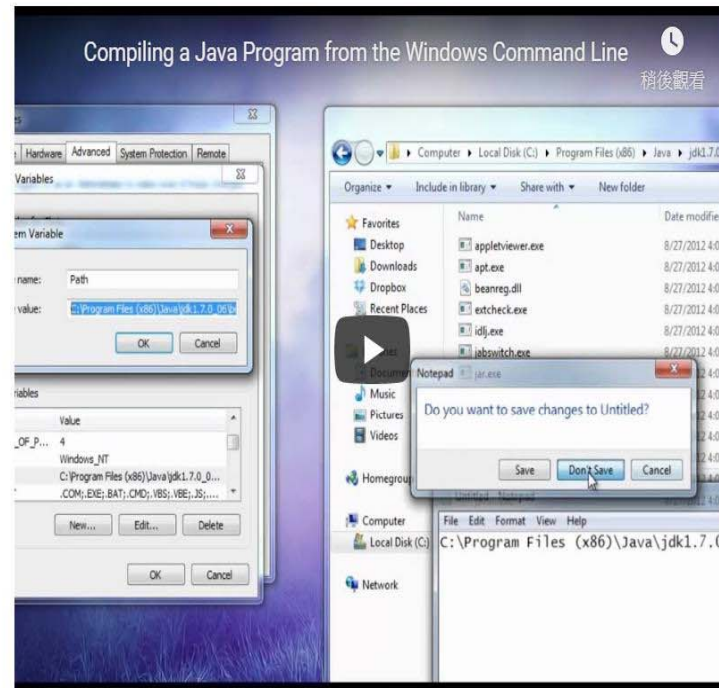
但是要編譯java code, 需要java sdk 中的javac

```
javac hello.java -->hello.class
```

```
java hello, or hello.class
```

<https://www.tech-recipes.com/rx/30018/how-to-compile-java-programs-through-windows-cmd/>

specific details.

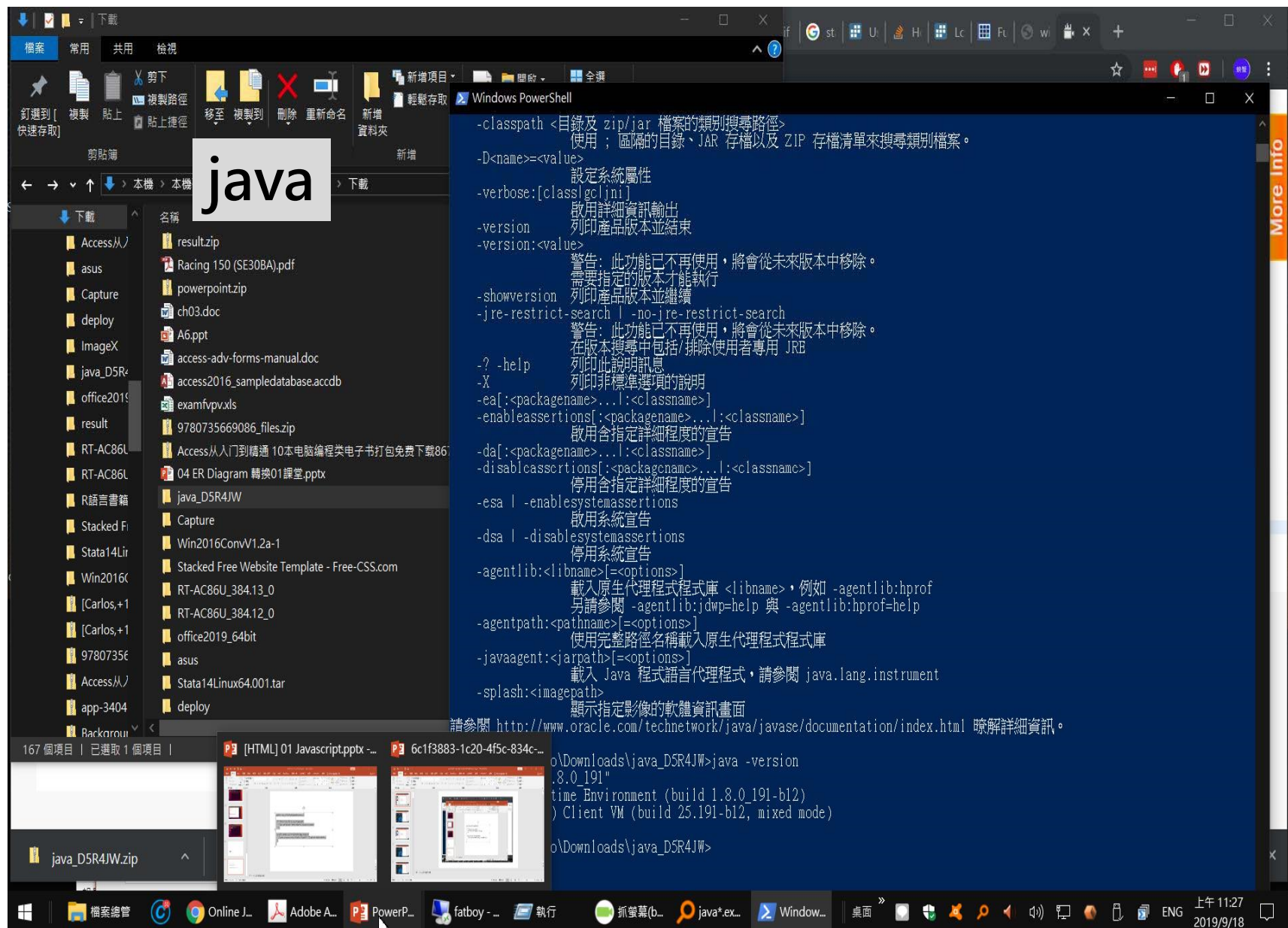


1. First things first, you need to [download the JDK from Oracle](#) to have the latest version of Java.

LINUX x64	110.01 MB	jdk-7u0-linux-x64.rpm
Linux x64	91.59 MB	jdk-7u6-linux-x64.tar.gz
Linux ARM	65.03 MB	jdk-7u6-linux-arm-sfp.tar.gz
Mac OS X	112.14 MB	jdk-7u6-macosx-x64.dmg

java_DSR4JW.zip

全部顯示



https://www.tutorialspoint.com/compile_java_online.php

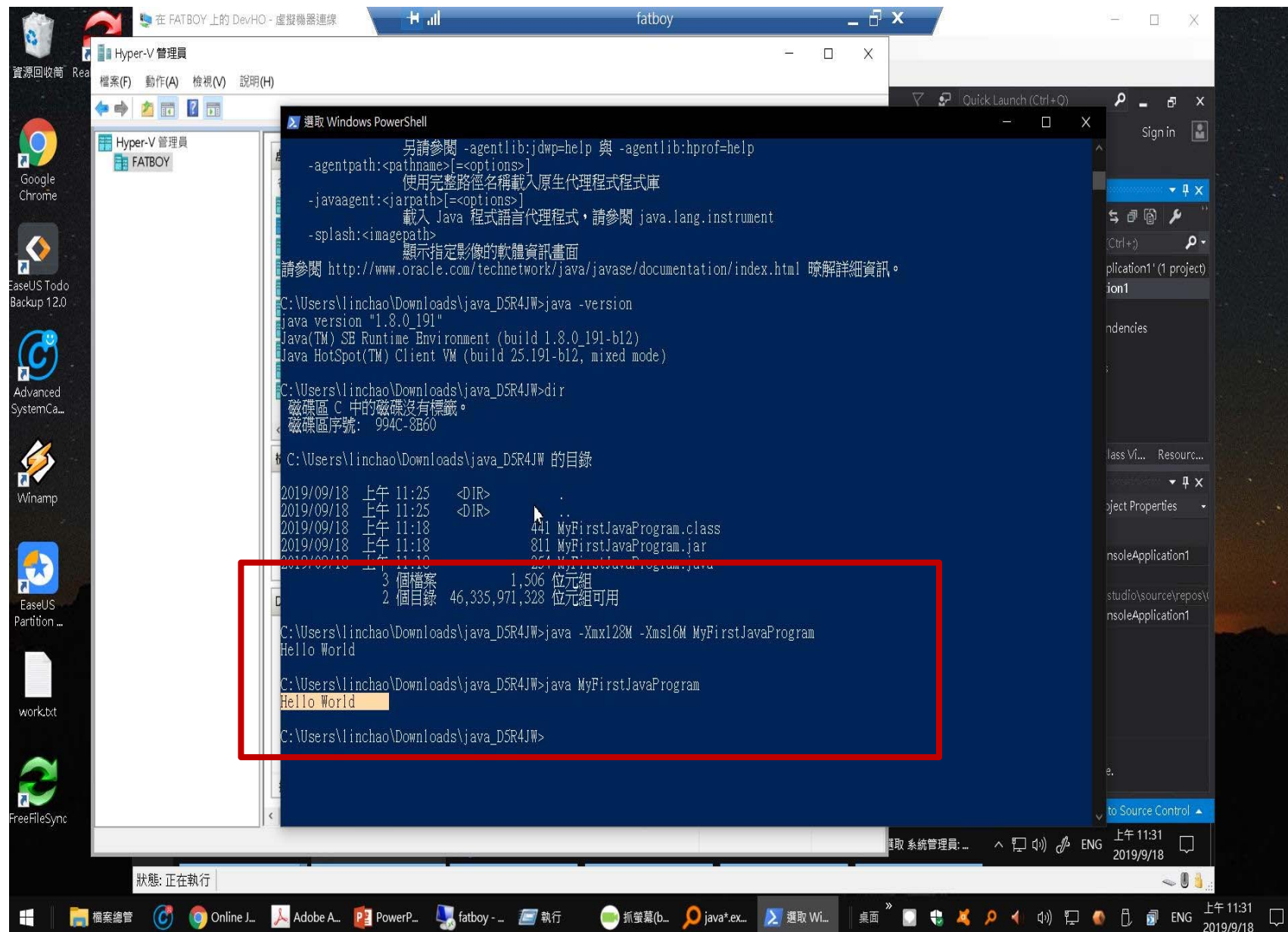
The screenshot displays an online Java compiler interface. The top navigation bar includes 'Execute', 'Share', 'Source File', and 'STDIN'. The 'Source File' tab is active, showing a Java program:

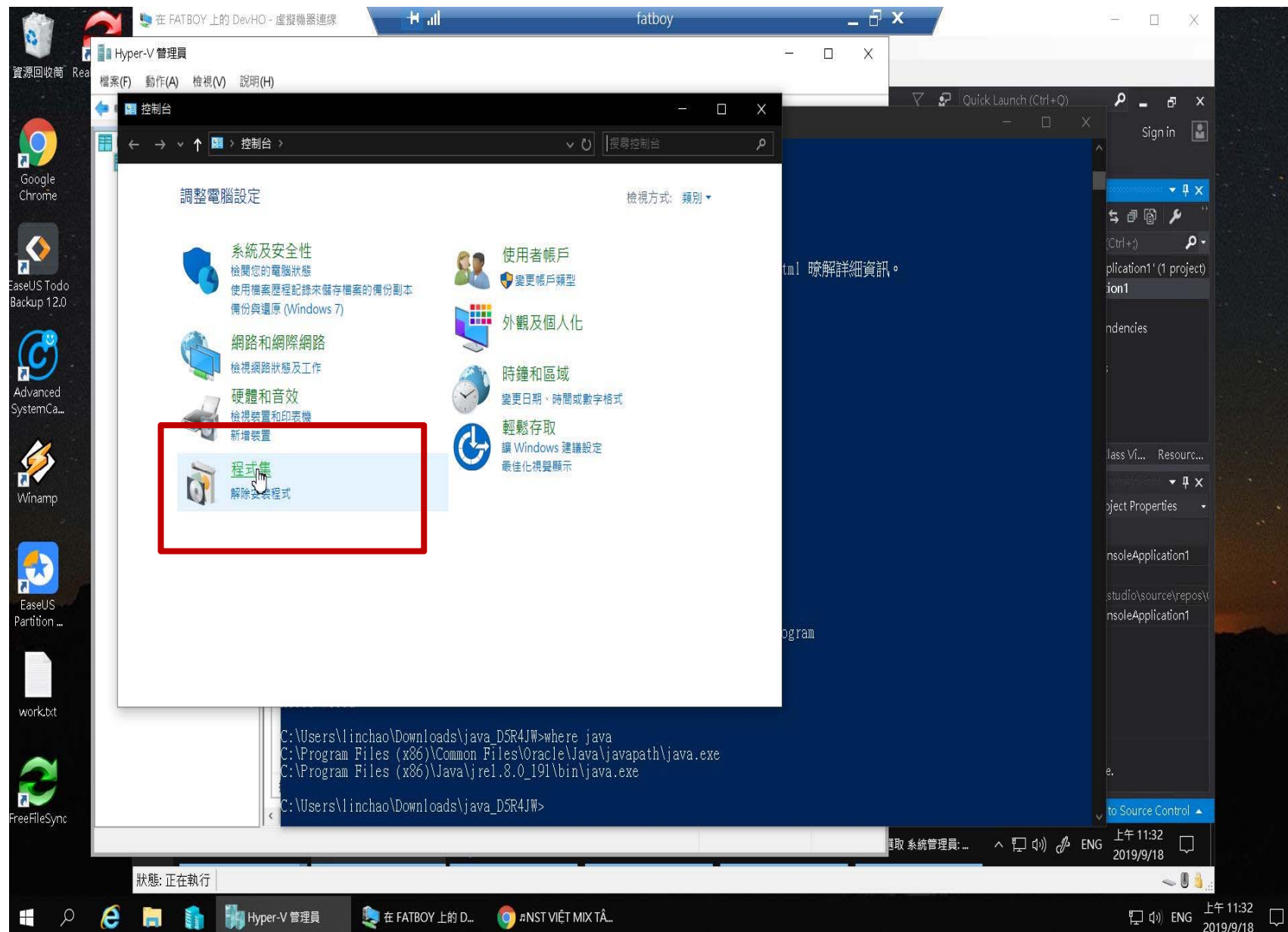
```
1 public class HelloWorld{  
2  
3     public static void main(String []args){  
4         System.out.println("Hello World");  
5     }  
6 }
```

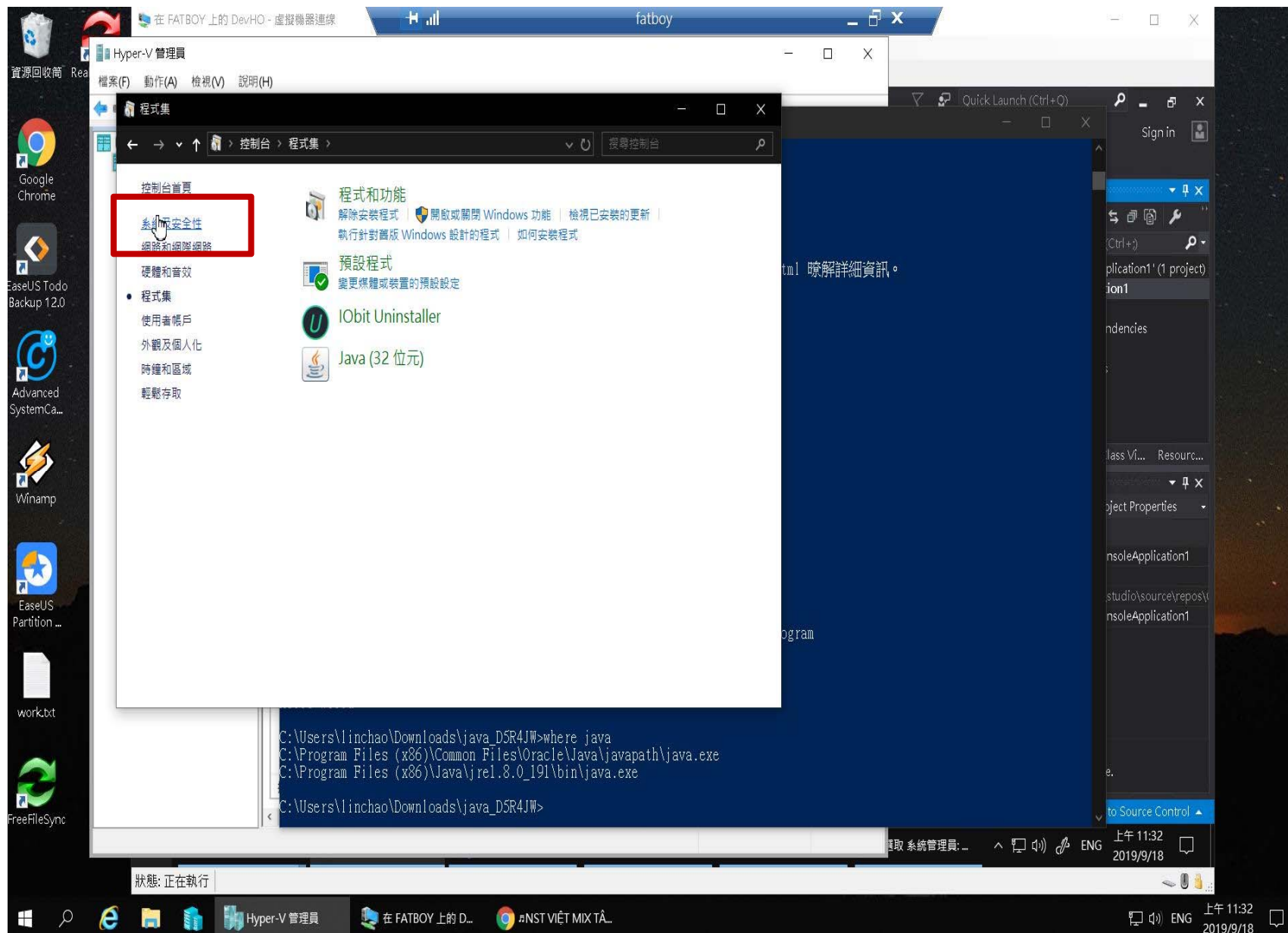
The 'Result' tab on the right shows the compilation and execution output:

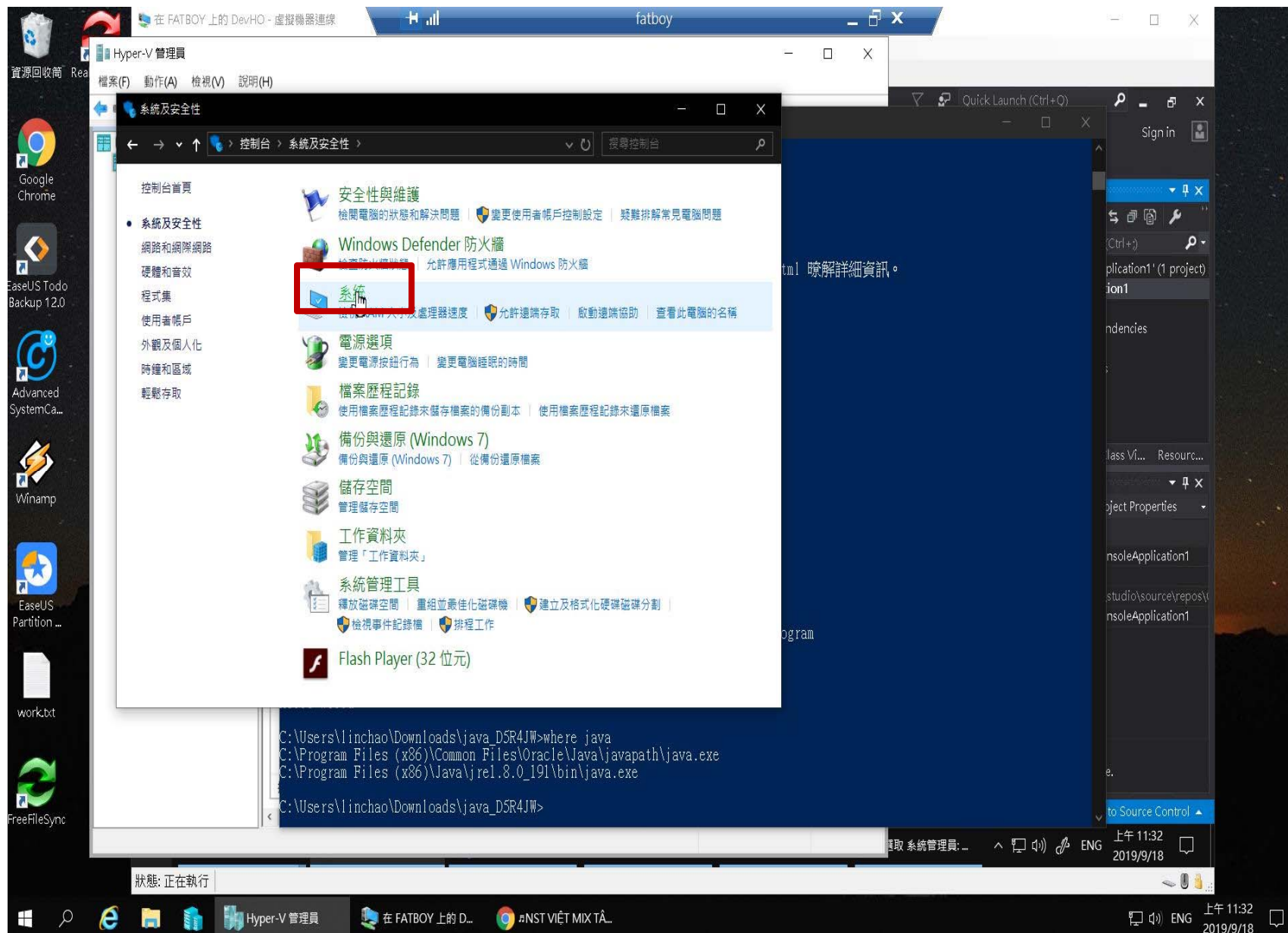
```
$javac HelloWorld.java  
$java -Xmx128M -Xms16M HelloWorld  
Hello World
```

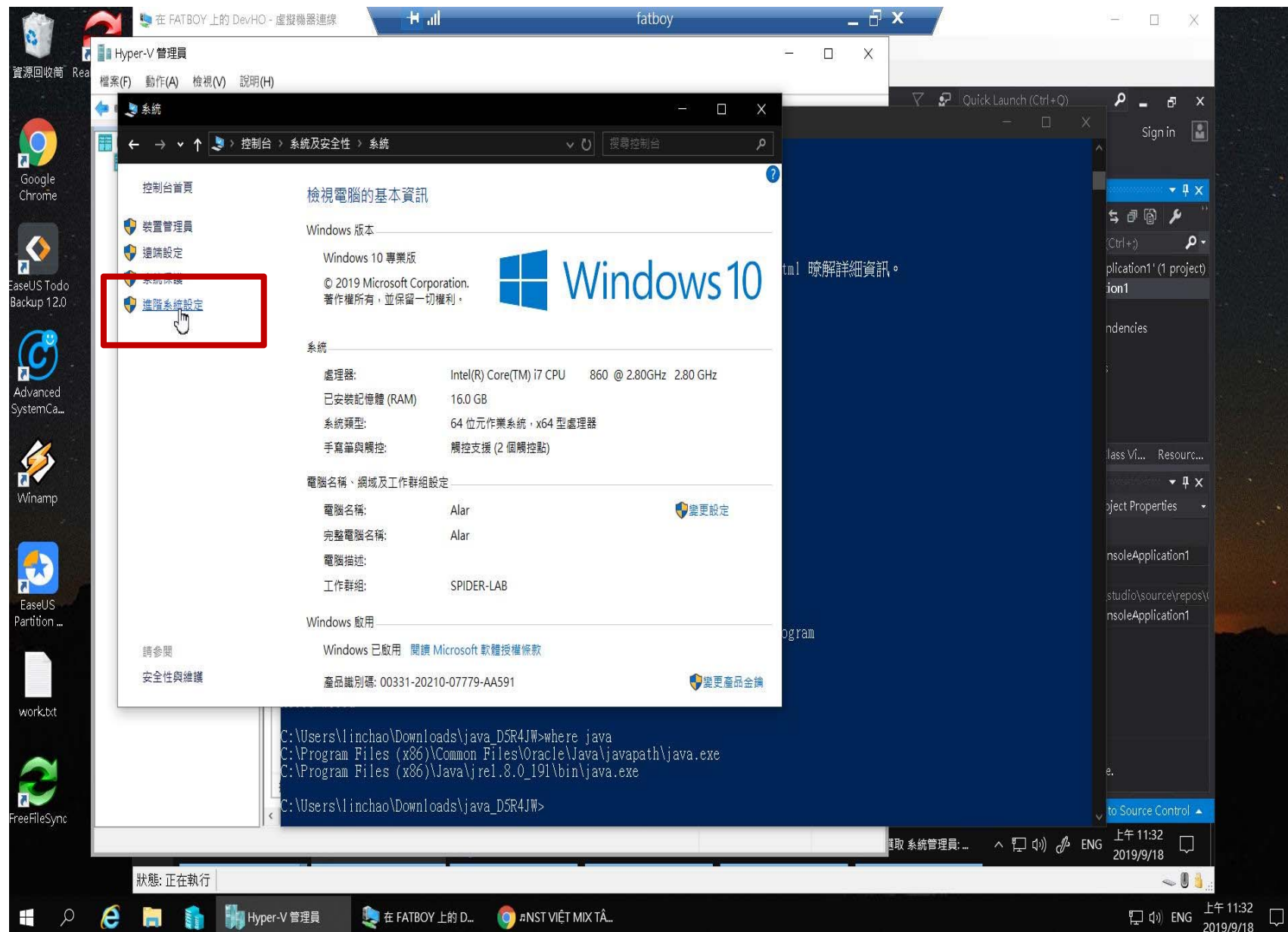
The bottom of the image shows a Windows taskbar with various open applications, including a file explorer, a web browser, and several office applications. The system clock indicates the time is 11:29 AM on 2019/9/18.

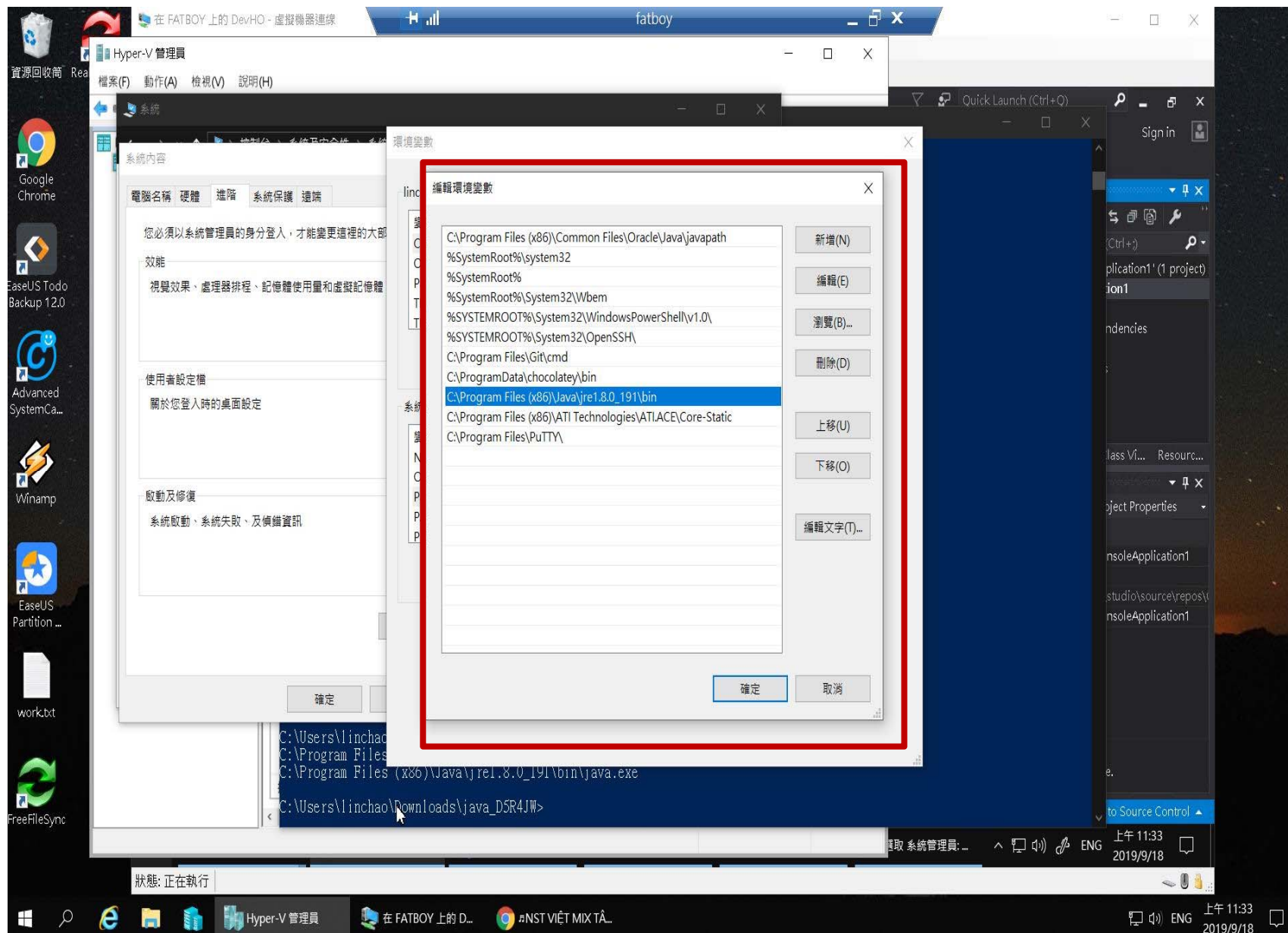












tutorialspoint.com/compile java online.php

Windows PowerShell

另請參閱 -agentlib:jdwp=help 與 -agentlib:hprof=help
-agentpath:<pathname>[=<options>]
使用完整路徑名稱載入原生代理程式庫
-javaagent:<jarpath>[=<options>]
載入 Java 程式語言代理程式，請參閱 java.lang.instrument
-splash:<imagepath>
顯示指定影像的軟體資訊畫面
請參閱 <http://www.oracle.com/technetwork/java/javase/documentation/index.html> 瞭解詳細資訊。

C:\Users\linchao\Downloads\java_D5R4JW>java -version
java version "1.8.0_191"
Java(TM) SE Runtime Environment (build 1.8.0_191-b12)
Java HotSpot(TM) Client VM (build 25.191-b12, mixed mode)

C:\Users\linchao\Downloads\java_D5R4JW>dir
磁碟區 C 中的磁碟沒有標籤。
磁碟區序號: 994C-8E60

C:\Users\linchao\Downloads\java_D5R4JW 的目錄

日期時間	名稱	大小
2019/09/18 上午 11:25	<DIR>	.
2019/09/18 上午 11:25	<DIR>	..
2019/09/18 上午 11:18	MyFirstJavaProgram.class	441
2019/09/18 上午 11:18	MyFirstJavaProgram.jar	811
2019/09/18 上午 11:18	MyFirstJavaProgram.java	254
3 個檔案		1,506 位元組
2 個目錄		46,335,971,328 位元組可用

C:\Users\linchao\Downloads\java_D5R4JW>java -Xmx128M -Xms16M MyFirstJavaProgram
Hello World

C:\Users\linchao\Downloads\java_D5R4JW>java MyFirstJavaProgram
Hello World

C:\Users\linchao\Downloads\java_D5R4JW>where java
C:\Program Files (x86)\Common Files\Oracle\Java\javapath\java.exe
C:\Program Files (x86)\Java\jre1.8.0_191\bin\java.exe

C:\Users\linchao\Downloads\java_D5R4JW>

java_D5R4JW.zip

全部顯示

投影片 18 / 18 英文 (美國)

投影片 1 / 67 中文 (台灣)

76%

73%

1:33

9/18