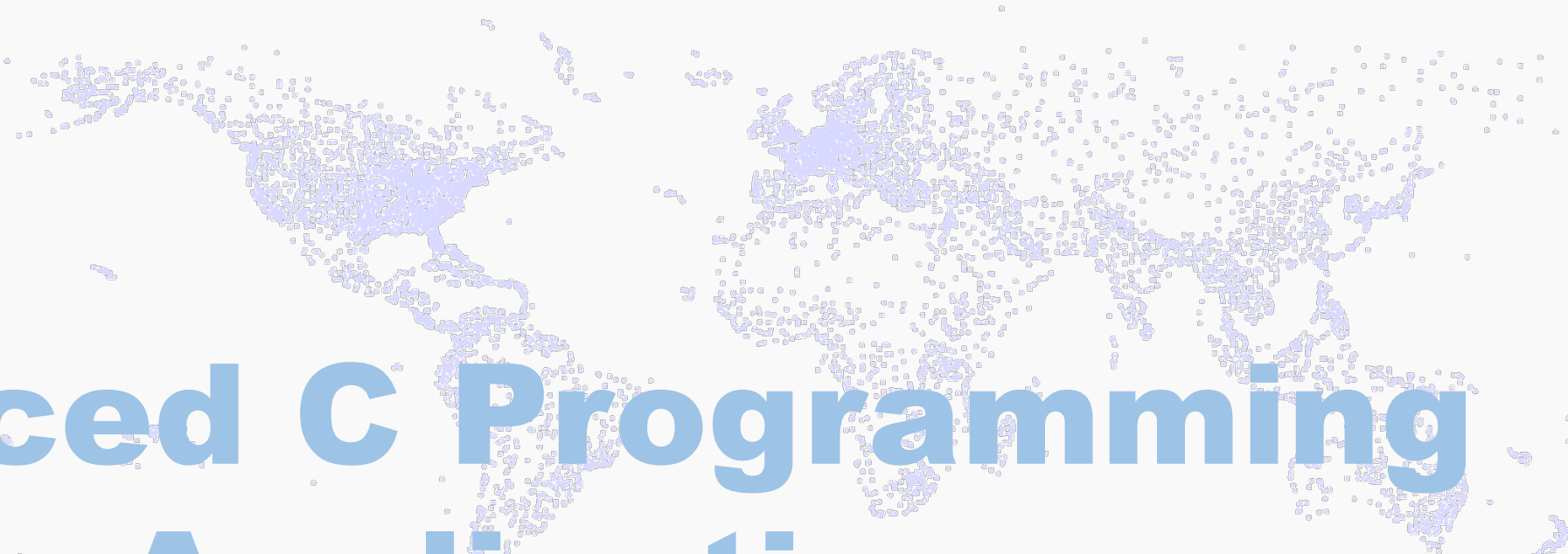


<Adv C & App/>



Advanced C Programming And It's Application

Review: Environment Setup

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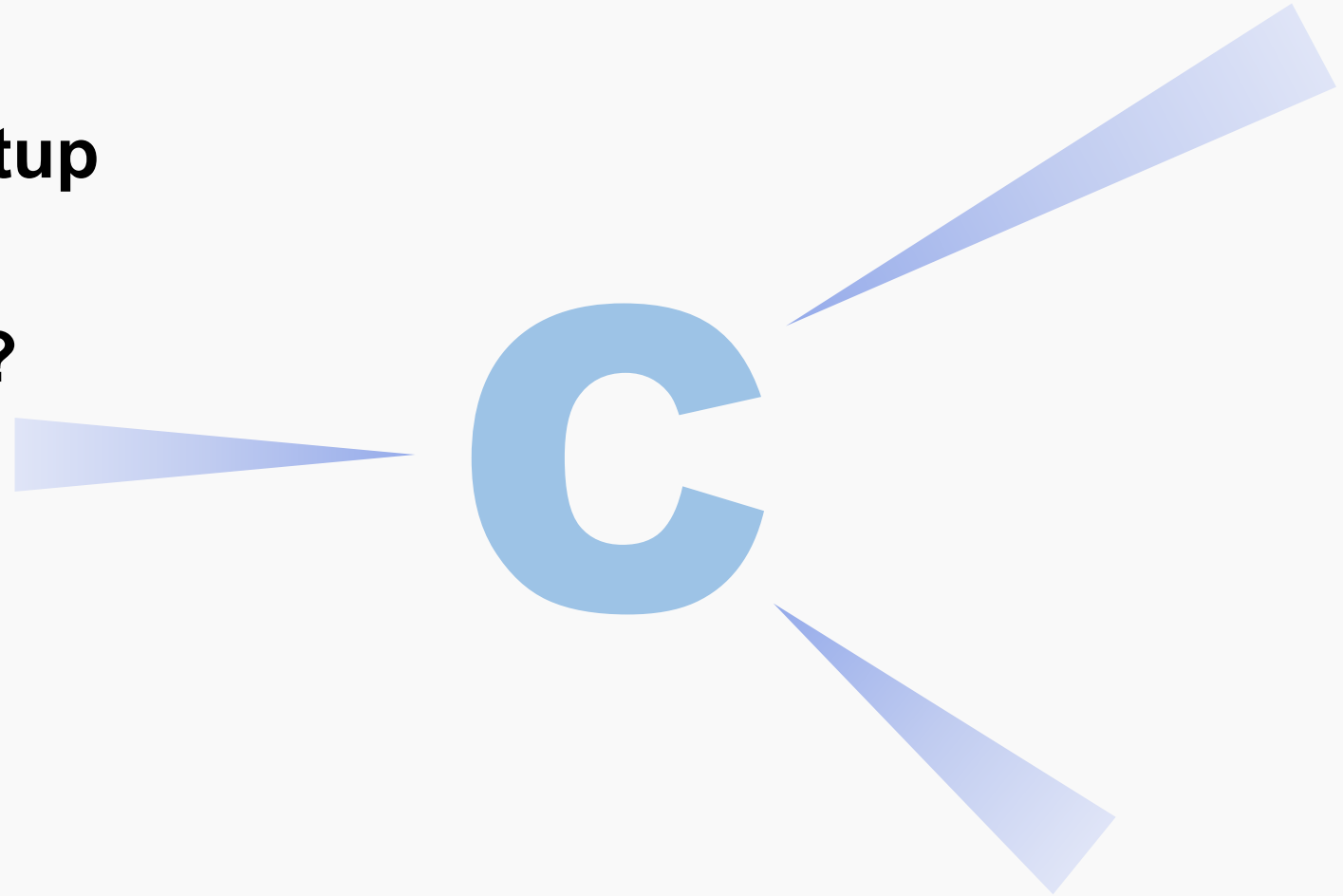
</ Adv C & App >

大綱

[1] Environment setup

[2] Hello world

[3] What's compile?



<Environment setup/>

環境建置 step 1

下載安裝編譯器

<https://gcc.gnu.org/install/>

安裝完記得設定環境變數。

1. <https://sites.google.com/site/mycprogrammingbook/bu-chong-cai-liao/gccanzhuang>
2. <https://www.itread01.com/content/1541796255.html>
3. <http://kaiching.org/pydoing/c/gcc.html>

Installing GCC

The latest version of this document is always available at <http://gcc.gnu.org/install/>. It refers to the current development sources, instructions for specific released versions are included with the sources.

This document describes the generic installation procedure for GCC as well as detailing some target specific installation instructions.

GCC includes several components that previously were separate distributions with their own installation instructions. This document supersedes all package-specific installation instructions.

Before starting the build/install procedure please check the [host/target specific installation notes](#). We recommend you browse the entire generic installation instructions before you proceed.

Lists of successful builds for released versions of GCC are available at <http://gcc.gnu.org/buildstat.html>. These lists are updated as new information becomes available.

The installation procedure itself is broken into five steps.

1. Prerequisites

環境建置 step 1

The image shows a Windows 10 desktop environment. On the left, the Windows Settings application is open to the 'System' page. The 'Advanced system settings' link is highlighted with a red box. A blue arrow points from this link to the 'System Information' dialog box on the right. In the dialog box, the 'Advanced' tab is selected, and the 'Environment variables...' button is highlighted with a red box. The text 'Step 2' is overlaid on the dialog box.

Step 1

Step 2

環境建置 step 1

環境變數

TooDou 的使用者變數(U)

變數	值
C_INCLUDE_PATH	C:\Program Files\mingw-w64\x86_64-8.1.0-... (highlighted)
GEODA_GDAL_D...	C:\Program Files\GeoDa Software\data
GEODA_OGR_DR...	C:\Program Files\GeoDa Software
LIBRARY_PATH	C:\Program Files\mingw-w64\x86_64-8.1.0-...

新增(N)... 編輯(E)... 刪除(D)

系統變數(S)

變數	值
AGSDESKTOPJAVA	C:\Program Files (x86)\ArcGIS\Desktop10...
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PR...	16

新增(W)... 編輯(I)... 刪除(L)

確定 取消

Step 3

C:\Program Files\mingw-w64\x86_64-8.1.0-win32-seh-rt_v6-rev0\mingw64\include

編輯使用者變數 **Step 4**

變數名稱(N): C_INCLUDE_PATH

變數值(V): C:\Program Files\mingw-w64\x86_64-8.1.0-win32-seh-rt_v6-rev0\mingw64\include

瀏覽目錄(D)... 瀏覽檔案(F)... 確定 取消

編輯環境變數 Path

- %USERPROFILE%\AppData\Local\Microsoft\WindowsApps
- C:\Users\TooDou\AppData\Roaming\npm
- C:\Users\TooDou\AppData\Local\Programs\MiKTeX 2.9\miktex\...
- C:\Users\TooDou\AppData\Local\GitHubDesktop\bin
- C:\Program Files\mingw-w64\x86_64-8.1.0-win32-seh-rt_v6-rev0\... (highlighted)
- C:\Users\TooDou\AppData\Local\Programs\Microsoft VS Code\...

新增(N) 編輯(E) 瀏覽(B)... 刪除(D) 上移(U) 下移(O) 編輯文字(T)...

Step 6

確定 取消

C:\Program Files\mingw-w64\x86_64-8.1.0-win32-seh-rt_v6-rev0\mingw64\bin

<Environment setup>

環境建置 step 2.1

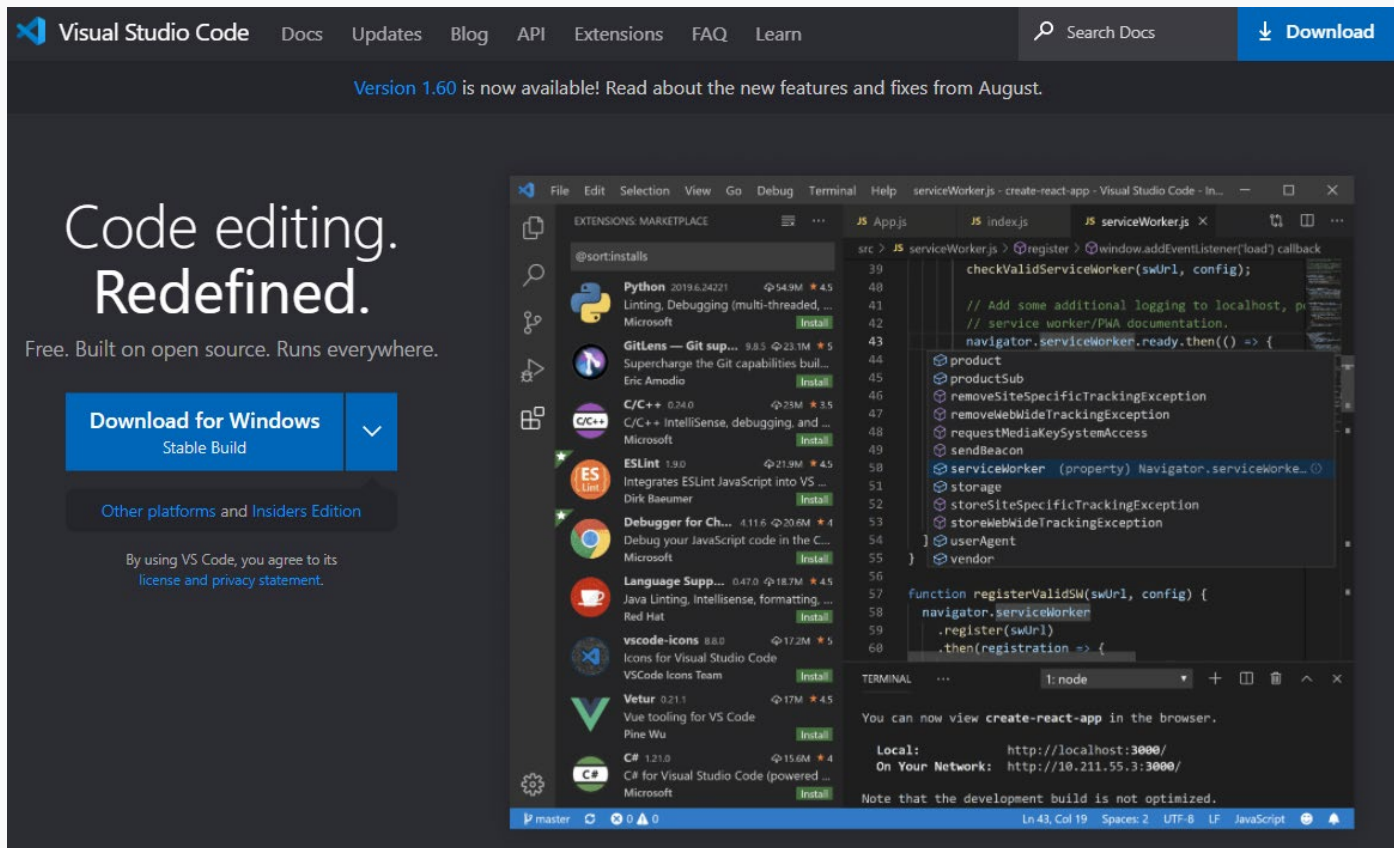
較肥的版本。 。 。 <https://visualstudio.microsoft.com/zh-hant/>

The screenshot shows the Visual Studio website homepage in Chinese. At the top, there is a navigation bar with the Microsoft logo, 'Visual Studio' text, and various menu items like '產品', '下載', '購買', '支援', and '訂閱者存取'. A search bar and 'Sign in' link are also present. The main header features the text 'Visual Studio 2022 預覽' and '加入我們，一起形塑 Visual Studio 的下一個主要版本', along with a '下載 >' button. The central section has a large 'Visual Studio' title and the subtitle '任何開發人員的業界領先工具'. Below this is a filter section with the text '讓我們協助您找到適當的下載和教學課程' and a form with dropdowns for '應用程式類型', '技術', and 'dev box OS'. The bottom section displays three product cards: 'Visual Studio' (Windows), 'Visual Studio Code' (macOS), and 'Visual Studio for Mac' (macOS), each with a brief description and a '下載' button.

<Environment setup>

環境建置 step 2.2

較light的版本。◦◦◦ <https://code.visualstudio.com/>

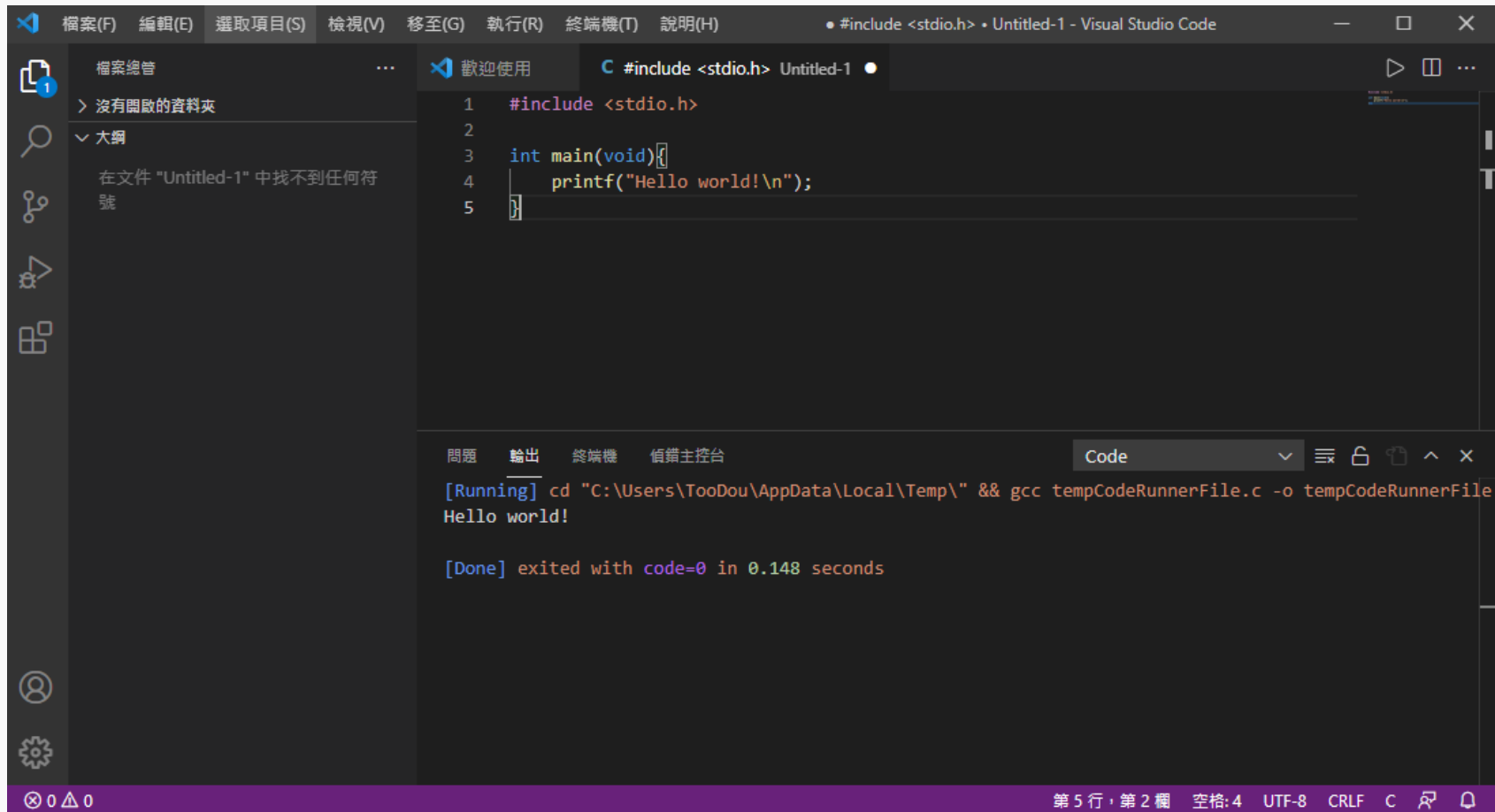


The image shows a screenshot of the Visual Studio Code website and a running application. The website header includes "Visual Studio Code" with navigation links for Docs, Updates, Blog, API, Extensions, FAQ, and Learn. A search bar and a "Download" button are also present. A banner for "Version 1.60" is visible. The main content area features the slogan "Code editing. Redefined." and a "Download for Windows" button. Below this, there are links for "Other platforms and Insiders Edition" and a note about the license and privacy statement.

The screenshot also shows a running application in a browser window. The application is a simple web page with a terminal window open at the bottom. The terminal shows the command `node` and the output: "You can now view create-react-app in the browser." followed by the local and network URLs: "Local: http://localhost:3000/" and "On Your Network: http://10.211.55.3:3000/".

<Environment setup>

環境建置 step 2.2



```
#include <stdio.h>
int main(void){
    printf("Hello world!\n");
}
```

[Running] cd "C:\Users\TooDou\AppData\Local\Temp\" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile
Hello world!

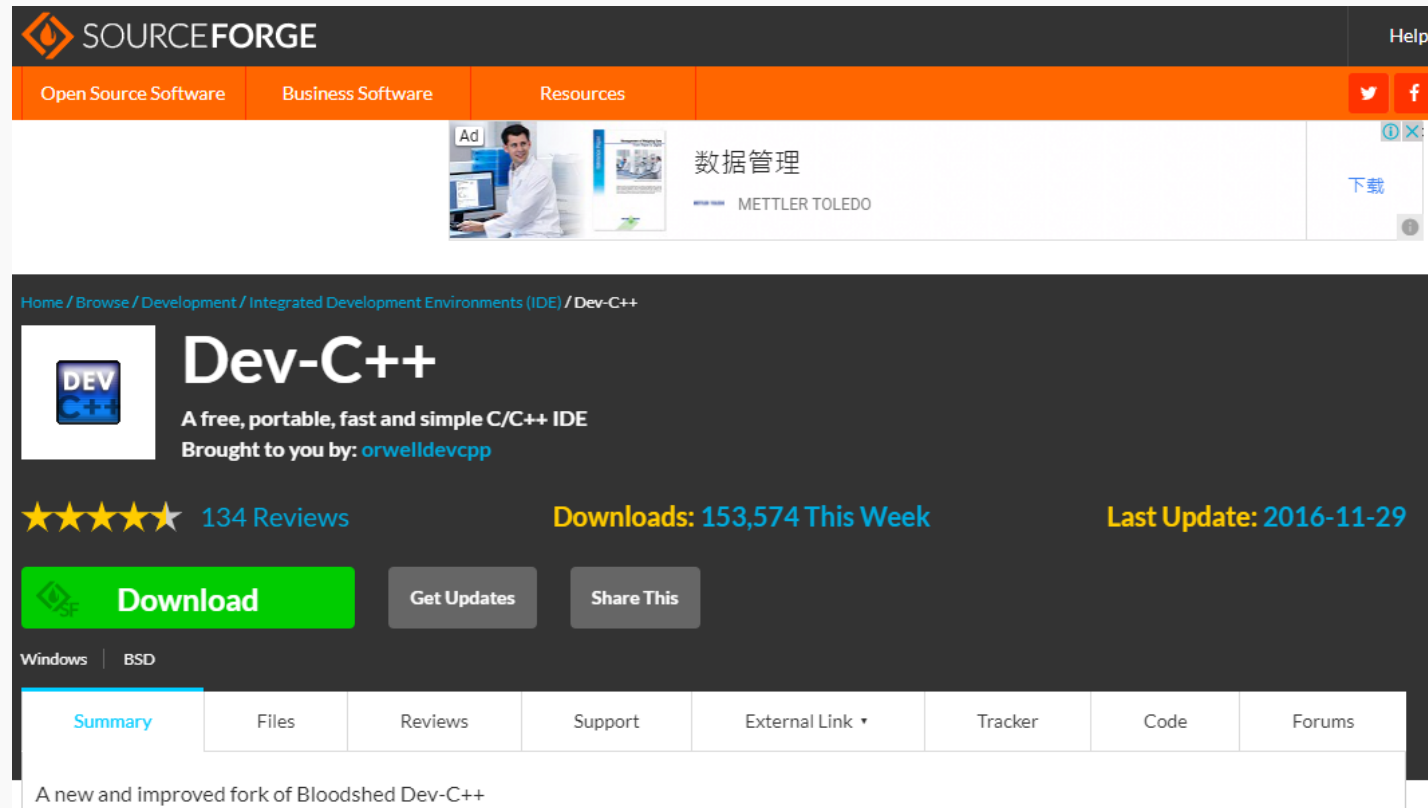
[Done] exited with code=0 in 0.148 seconds

第 5 行, 第 2 欄 空格: 4 UTF-8 CRLF C

<Environment setup>

環境建置 step 2.3

最light的版本。◦◦◦ <https://sourceforge.net/projects/orwelldevcpp/>



The screenshot shows the SourceForge project page for Dev-C++. The page features the SourceForge logo at the top left, navigation tabs for 'Open Source Software', 'Business Software', and 'Resources', and social media icons for Twitter and Facebook. Below the navigation is an advertisement for '数据管理' (Data Management) by METTLER TOLEDO. The main content area displays the Dev-C++ logo, a description: 'A free, portable, fast and simple C/C++ IDE Brought to you by: orwelldevcpp', and statistics: '134 Reviews', 'Downloads: 153,574 This Week', and 'Last Update: 2016-11-29'. There are three buttons: 'Download' (green), 'Get Updates', and 'Share This'. Below the buttons is a navigation menu with tabs for 'Summary', 'Files', 'Reviews', 'Support', 'External Link', 'Tracker', 'Code', and ' Forums'. The 'Summary' tab is selected, showing the text: 'A new and improved fork of Bloodshed Dev-C++'.

介紹網站:

https://www.csie.ntu.edu.tw/~b98902112/cpp_and_algo/devcpp/README.html

<Environment setup>

環境建置 step 2.3

```
C:\Users\TooDou\OneDrive - g.ntu.edu.tw\淡江大學 課程講義\進階C語言應用\W02_EX_Code\W02_00_hello_world.c - [Executing] - Dev-C++ 5.11
```

```
File Edit Search View Project Execute Tools AStyle Window Help
```

```
(globals)
```

```
Project Classes Debug W02_00_hello_world.c
```

```
main(void) : int
```

```
1 #include <stdio.h>
```

```
2
```

```
3 int main(void)
```

```
4 {
```

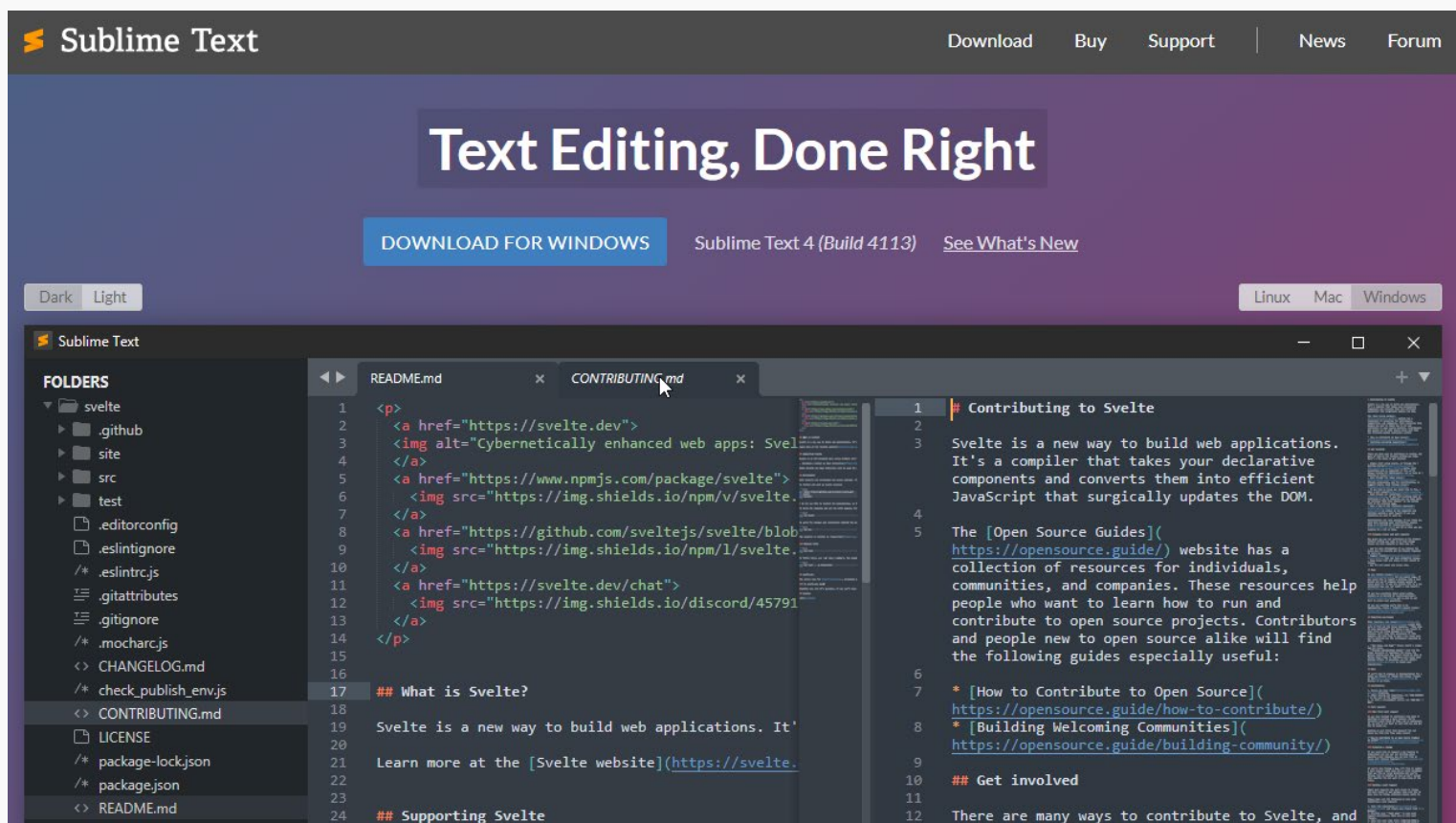
```
5     printf("Hello world!");
```

```
6     return 12;
```

<Environment setup>

環境建置 step 2.4

看起來比較厲害的方式。◦◦◦ <https://www.sublimetext.com/>

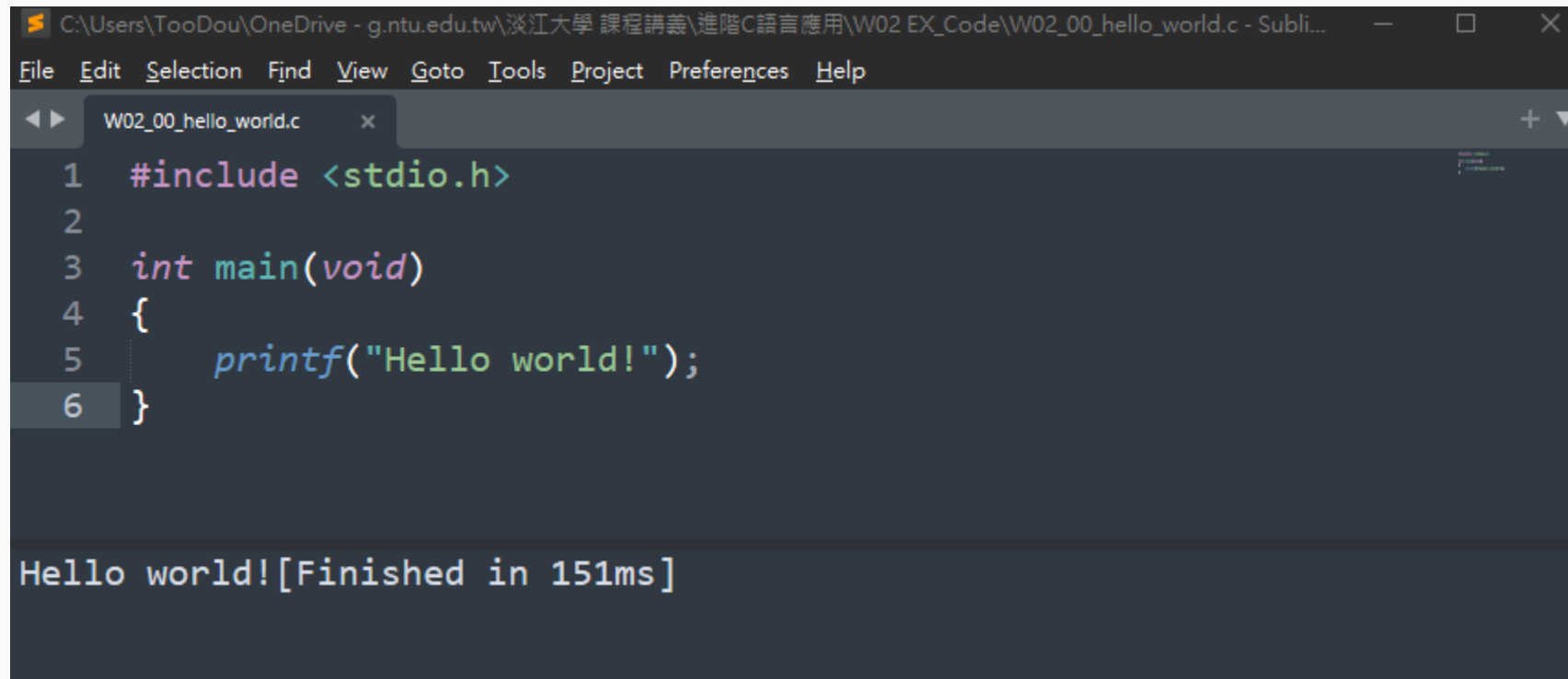


2021/09/29

</Environment setup>

<Environment setup>

環境建置 step 2.4



The screenshot shows a Sublime Text editor window with the following content:

```
C:\Users\TooDou\OneDrive - g.ntu.edu.tw\淡江大學 課程講義\進階C語言應用\W02 EX_Code\W02_00_hello_world.c - Subli...
File Edit Selection Find View Goto Tools Project Preferences Help
W02_00_hello_world.c x
1 #include <stdio.h>
2
3 int main(void)
4 {
5     printf("Hello world!");
6 }

Hello world![Finished in 151ms]
```

<Hello world/>

Hello world

```
#include <stdio.h>
```

```
int main(void)
```

```
{
```

```
    printf("Hello world!");
```

```
}
```



```
W02_00_hello_world.c x
1  #include <stdio.h>
2
3  int main(void)
4  {
5      printf("Hello world!");
6  }
```

Hello world![Finished in 136ms]

* void代表不回傳任何數值

<Compile/>

What's compile?

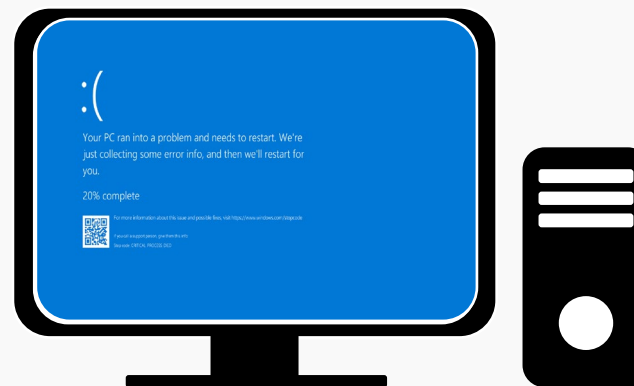
This is your code!

```
W02_00_hello_world.c x
1  #include <stdio.h>
2
3  int main(void)
4  {
5      printf("Hello world!");
6  }
```



Hey! Execute it!

This is your computer!



So, what's going on here?

Picture link: <https://bit.ly/3AJQIy9>

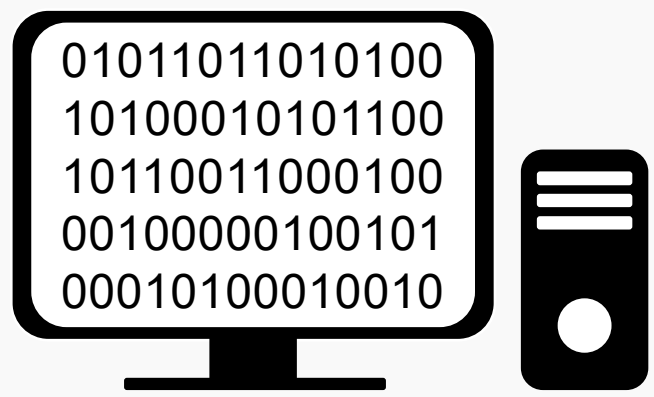
2021/09/29

</Compile>

<Compile/>

What's compile?

This is your computer!



This is your code!

```
W02_00_hello_world.c x
1  #include <stdio.h>
2
3  int main(void)
4  {
5      printf("Hello world!");
6  }
```



Translation from programming language to digital language.

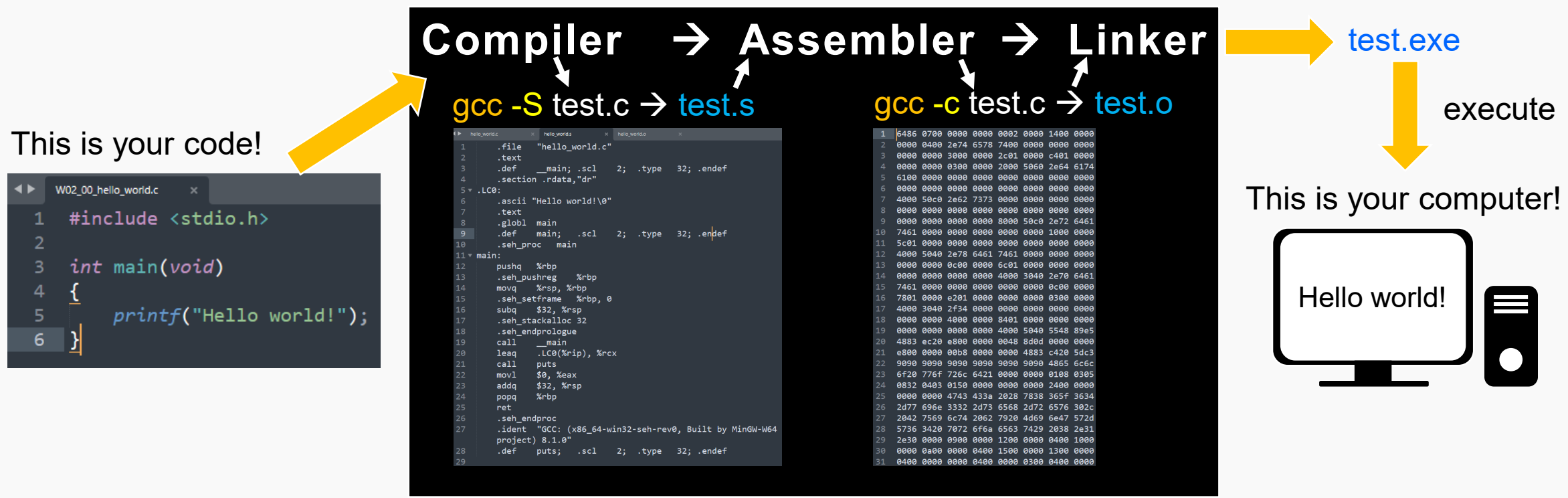
Picture link: <https://bit.ly/3AJQIy9>

2021/09/29

</Compile>

</Compile/>

What's compile?



Simple version: https://www.youtube.com/watch?v=N2y6csonll4&ab_channel=EngMicroLectures

Detailed version: https://www.youtube.com/watch?v=3tlqpEmWMLI&ab_channel=TheCherno

Picture link: <https://bit.ly/3AJQIy9>

</Compile/>