

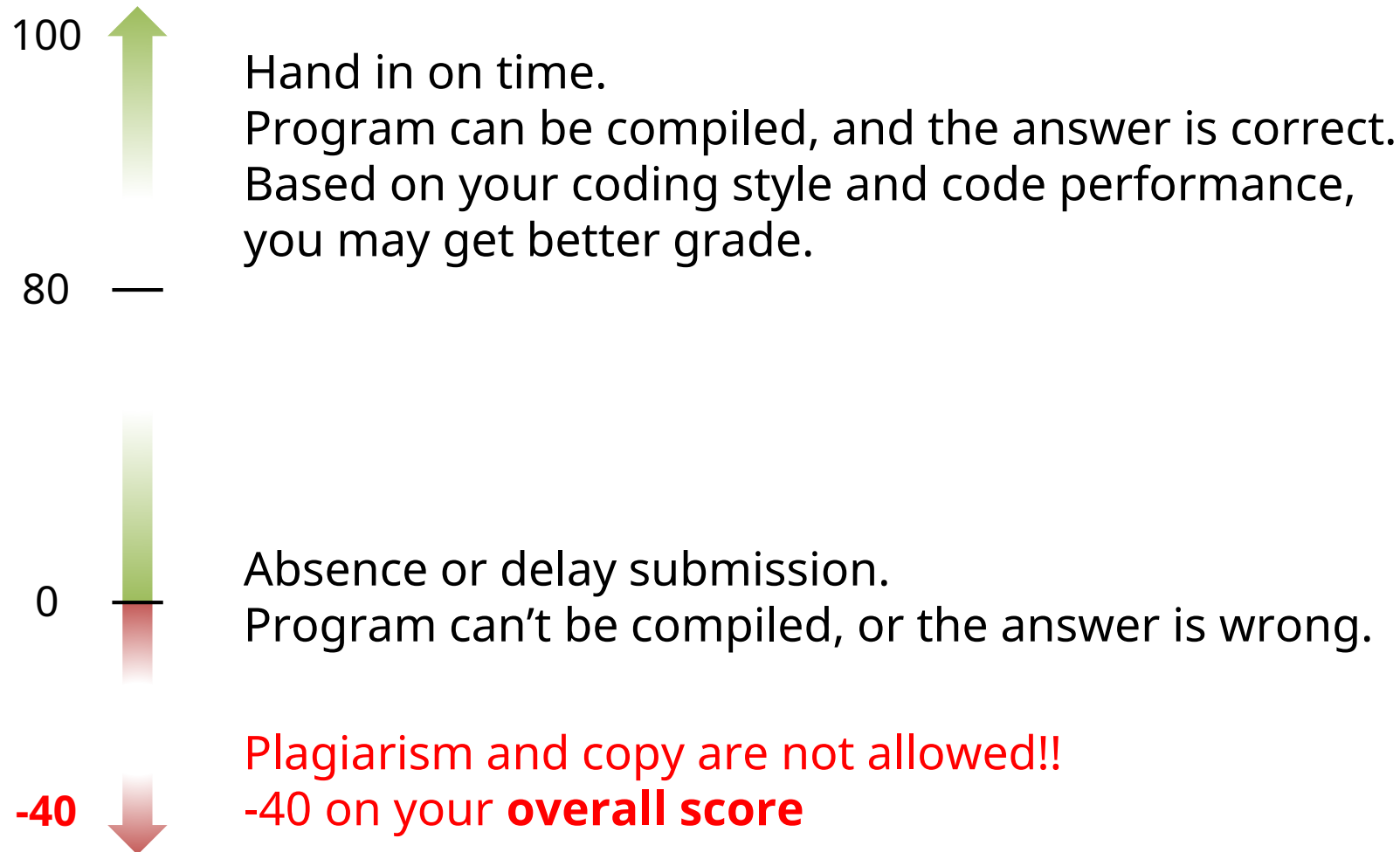


Lab 1

Introduction to C++ compiler and Dev C++

220217

Grading policy

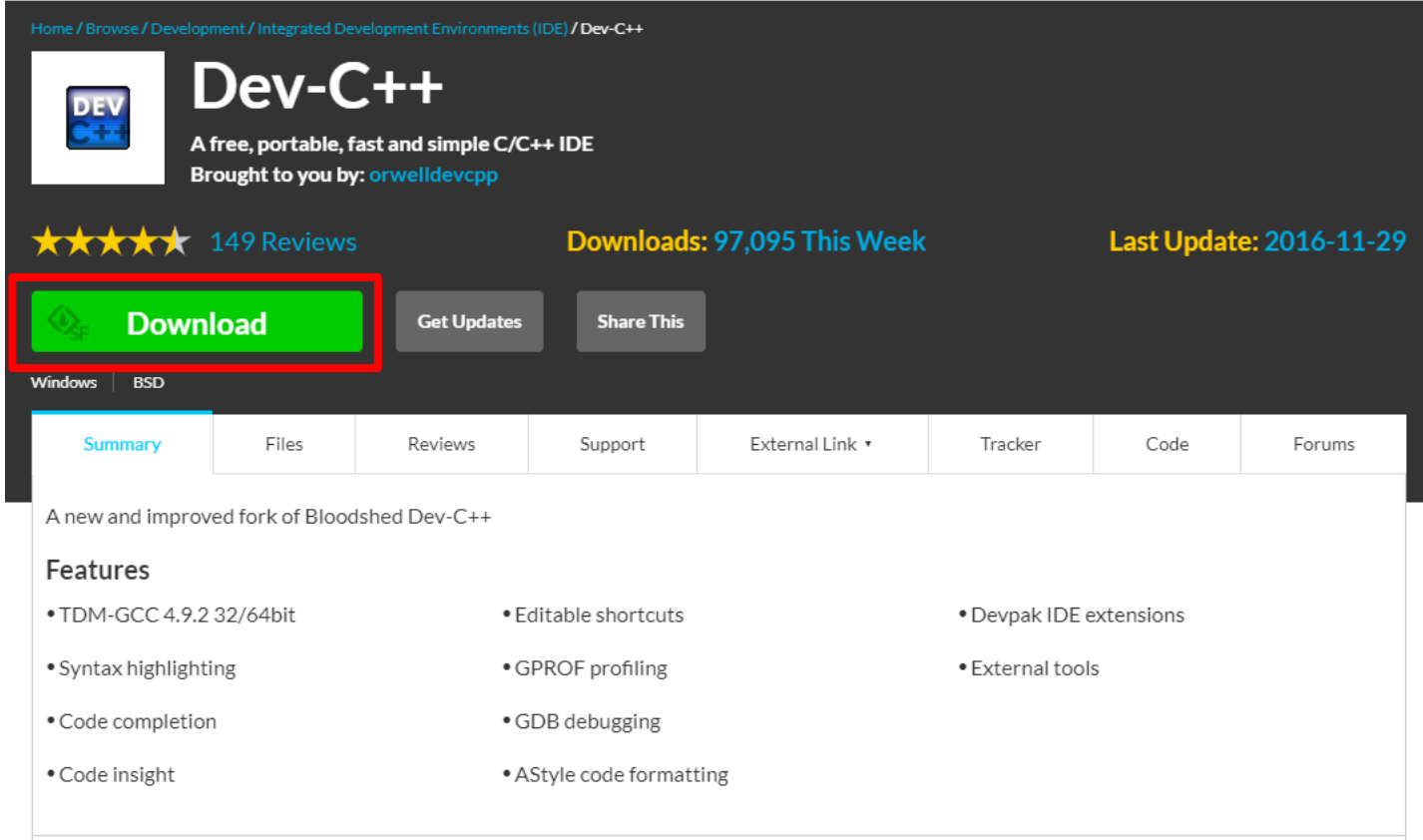


Course Rule

- There are some assignments for every lab. If you complete it, please ask TAs for demo, and **upload your .cpp file to new E3.** Furthermore, **do the double-check with the check form.**
- **No plagiarism**, or you will get -40 on **overall score.**
- Leave of absence: If you need to take a day-off, please email to TAs with new E3 before the course and it will not be calculated in the final score.

Download

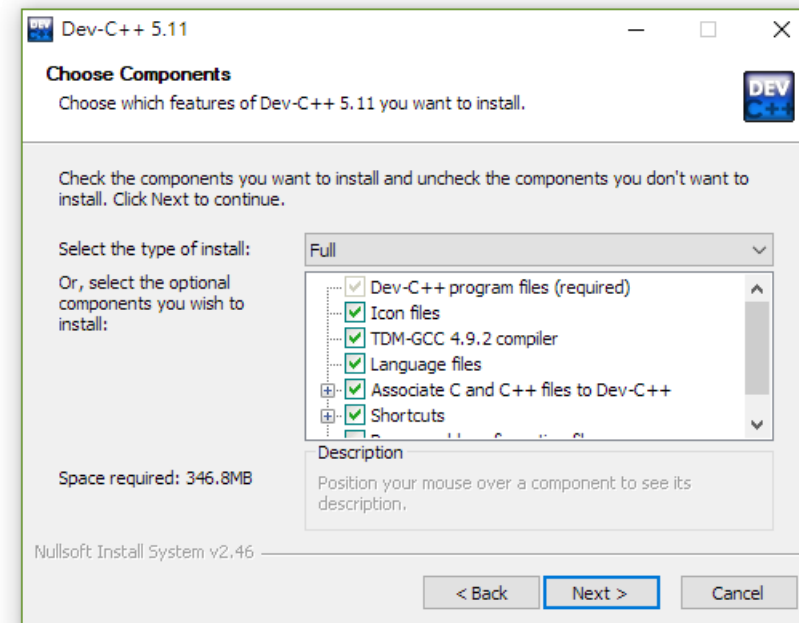
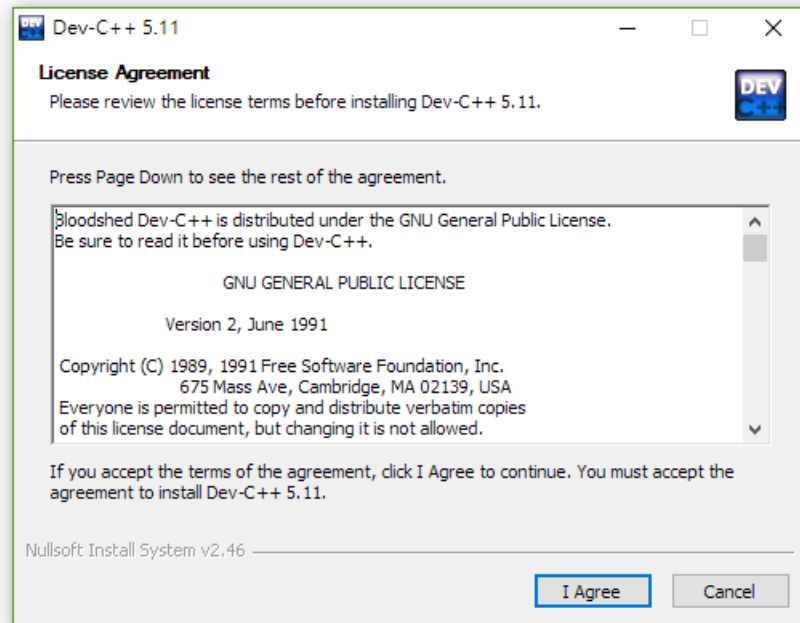
- Download Dev C++
- <https://sourceforge.net/projects/orwelldvcpp/>

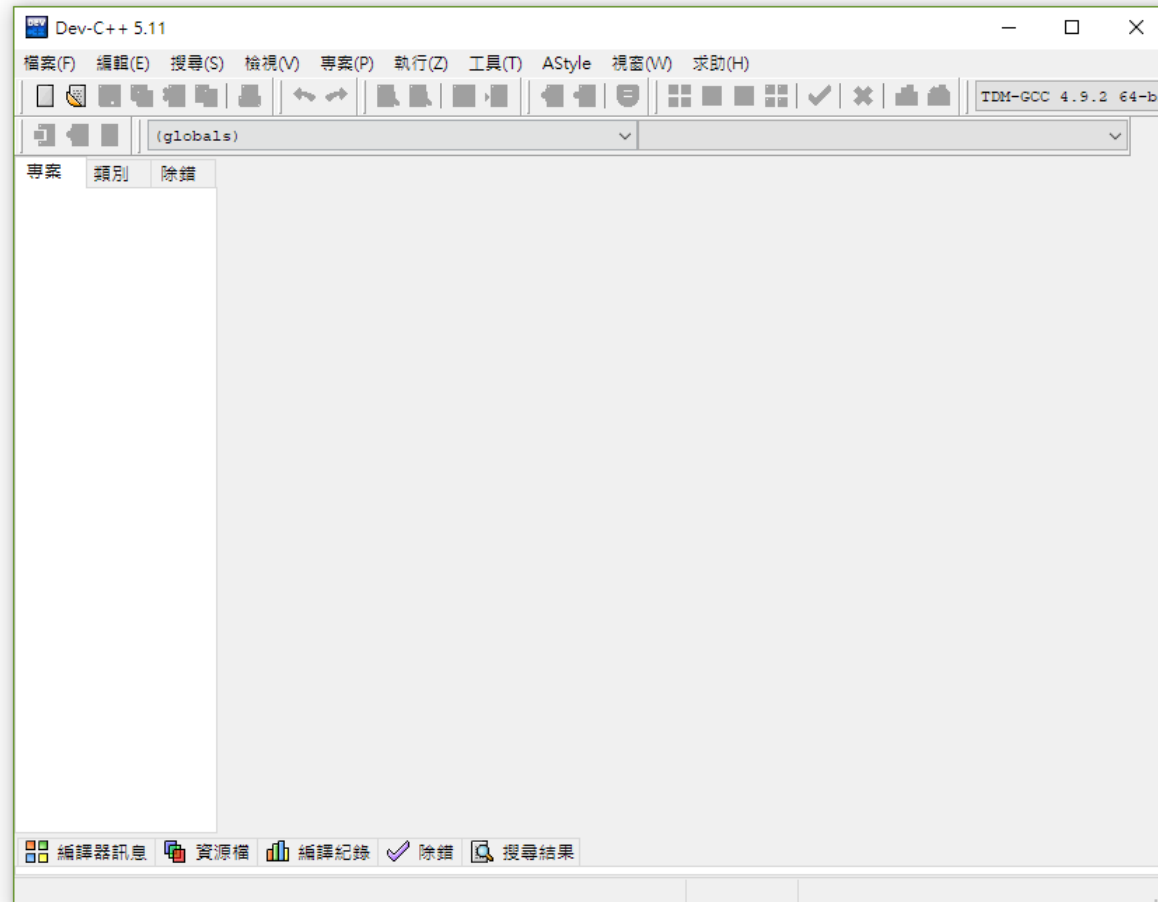


The screenshot shows the SourceForge project page for Dev-C++. A red arrow points to the green 'Download' button, which is highlighted with a red rectangle. The page includes the following information:

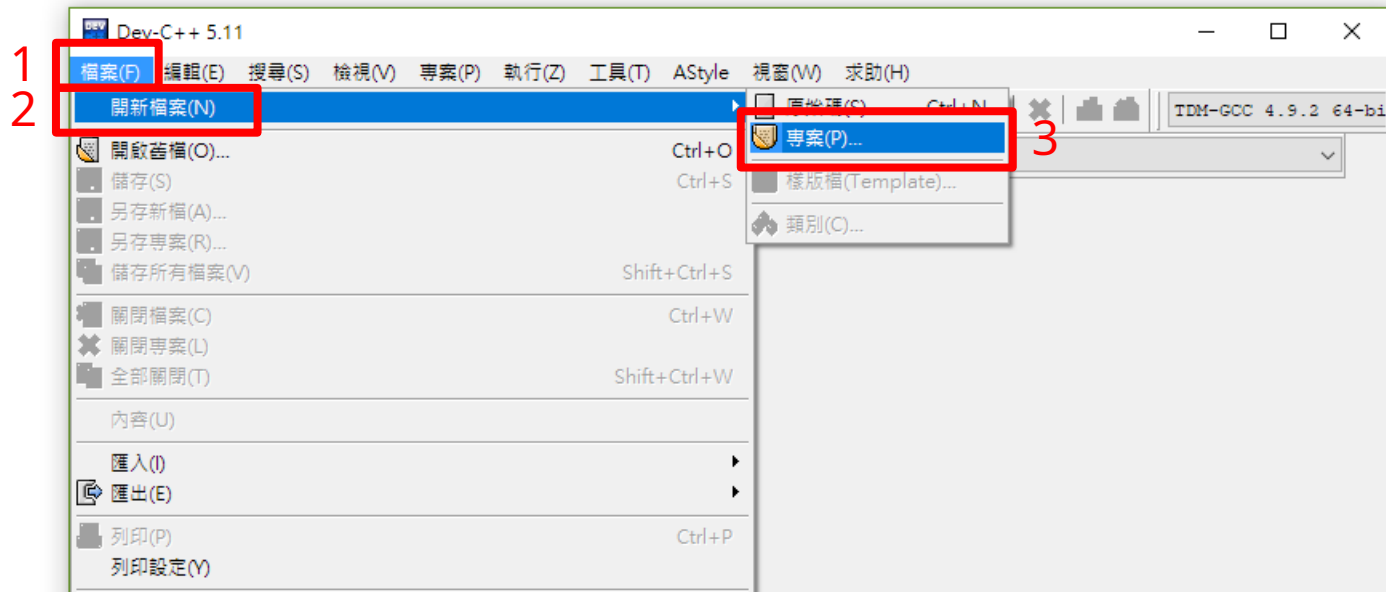
- Project Name:** Dev-C++
- Description:** A free, portable, fast and simple C/C++ IDE. Brought to you by: orwelldvcpp
- Reviews:** 149 Reviews (5 stars)
- Downloads:** 97,095 This Week
- Last Update:** 2016-11-29
- Buttons:** Download, Get Updates, Share This
- Operating Systems:** Windows, BSD
- Navigation Tabs:** Summary, Files, Reviews, Support, External Link, Tracker, Code, Forums
- Summary:** A new and improved fork of Bloodshed Dev-C++
- Features:**
 - TDM-GCC 4.9.2 32/64bit
 - Syntax highlighting
 - Code completion
 - Code insight
 - Editable shortcuts
 - GPROF profiling
 - GDB debugging
 - AStyle code formatting
 - Devpak IDE extensions
 - External tools

Installation



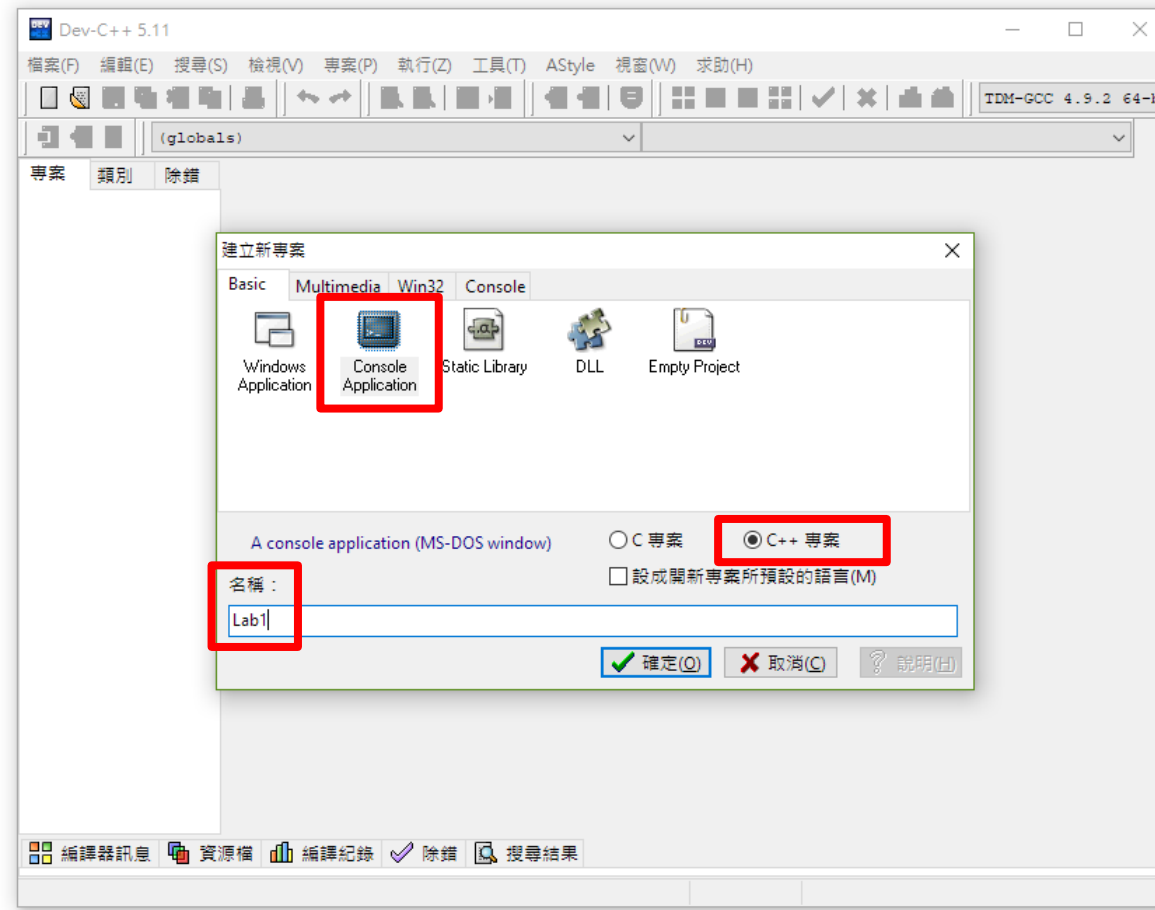


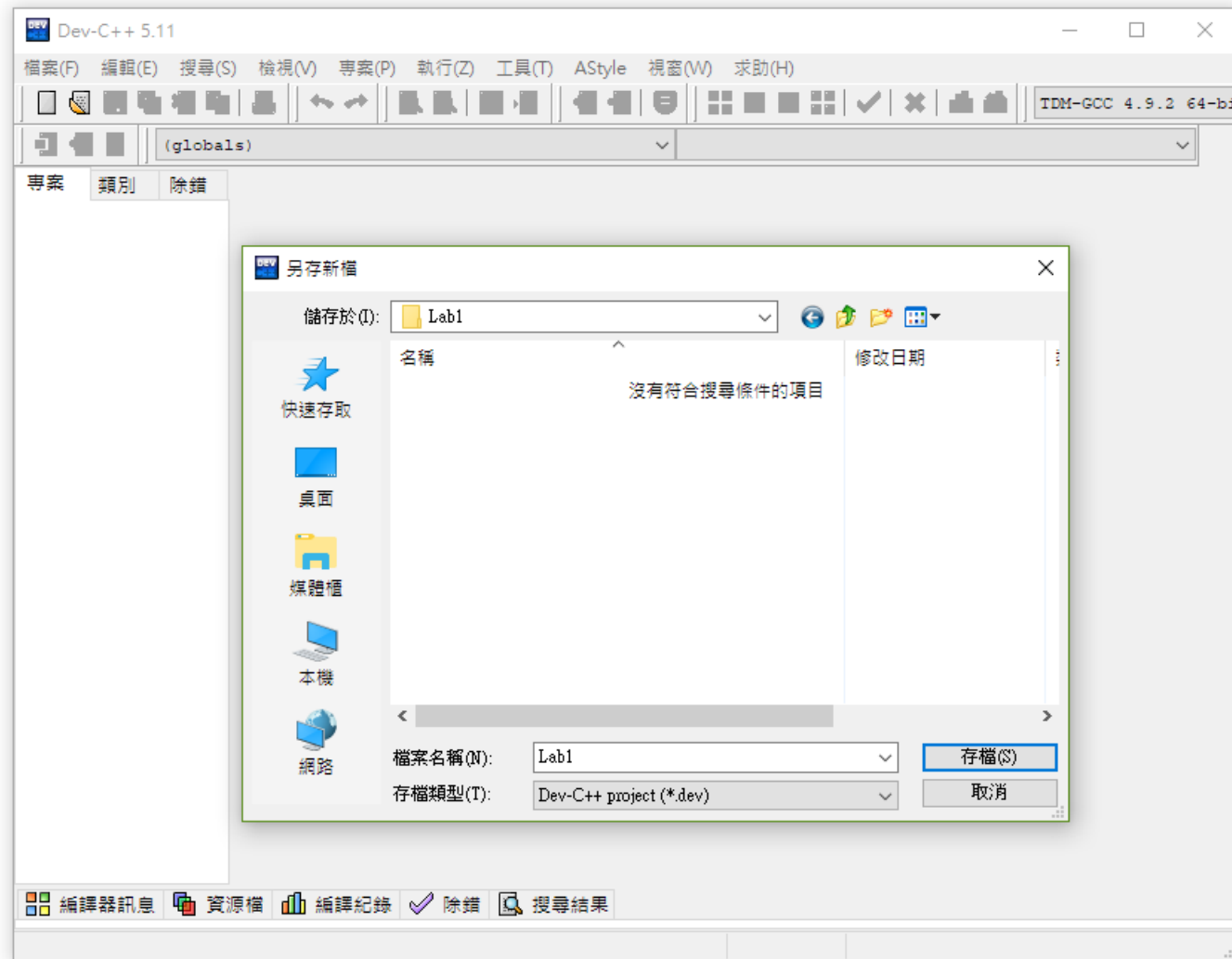
Create a new project

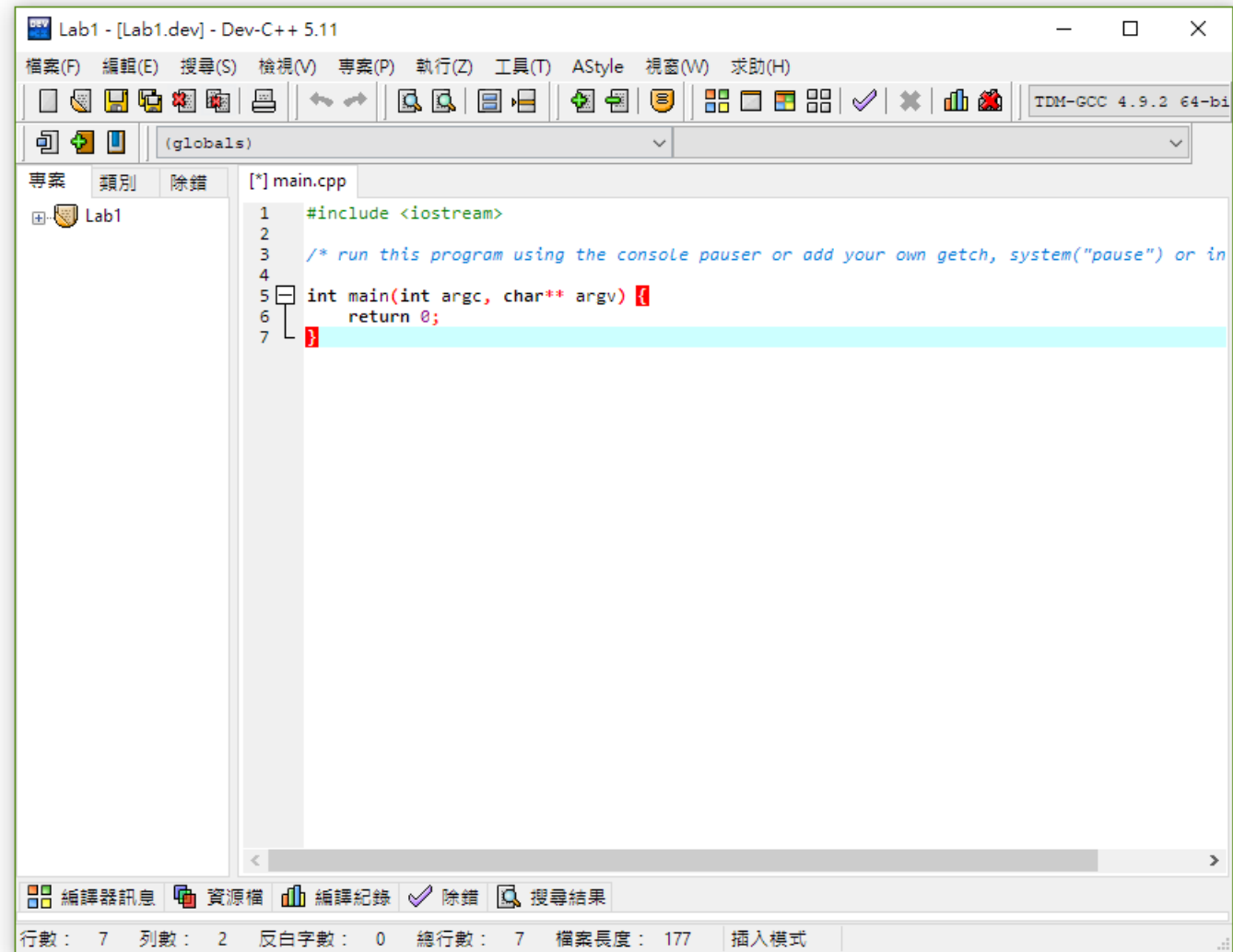


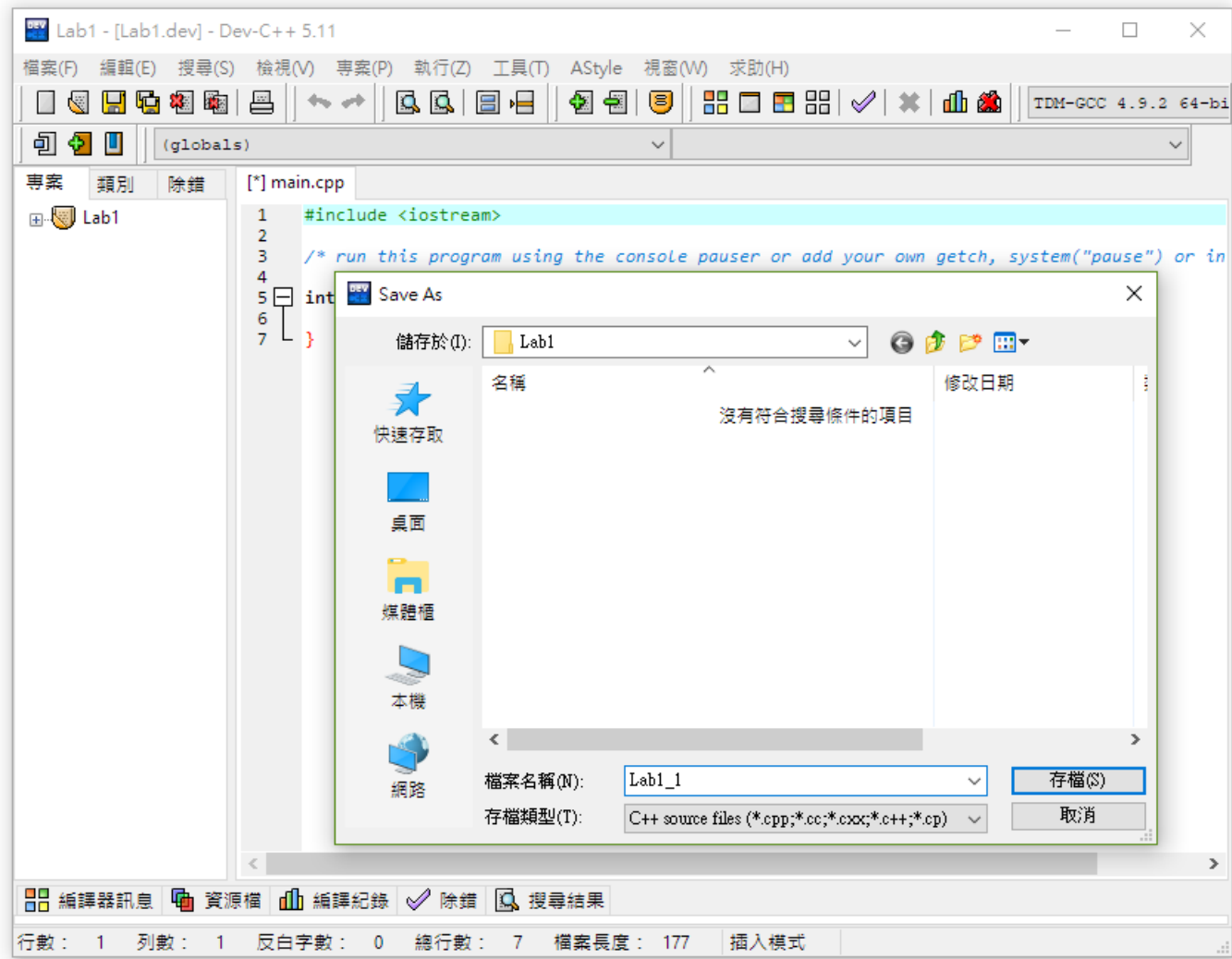
Select type of project

- Console application

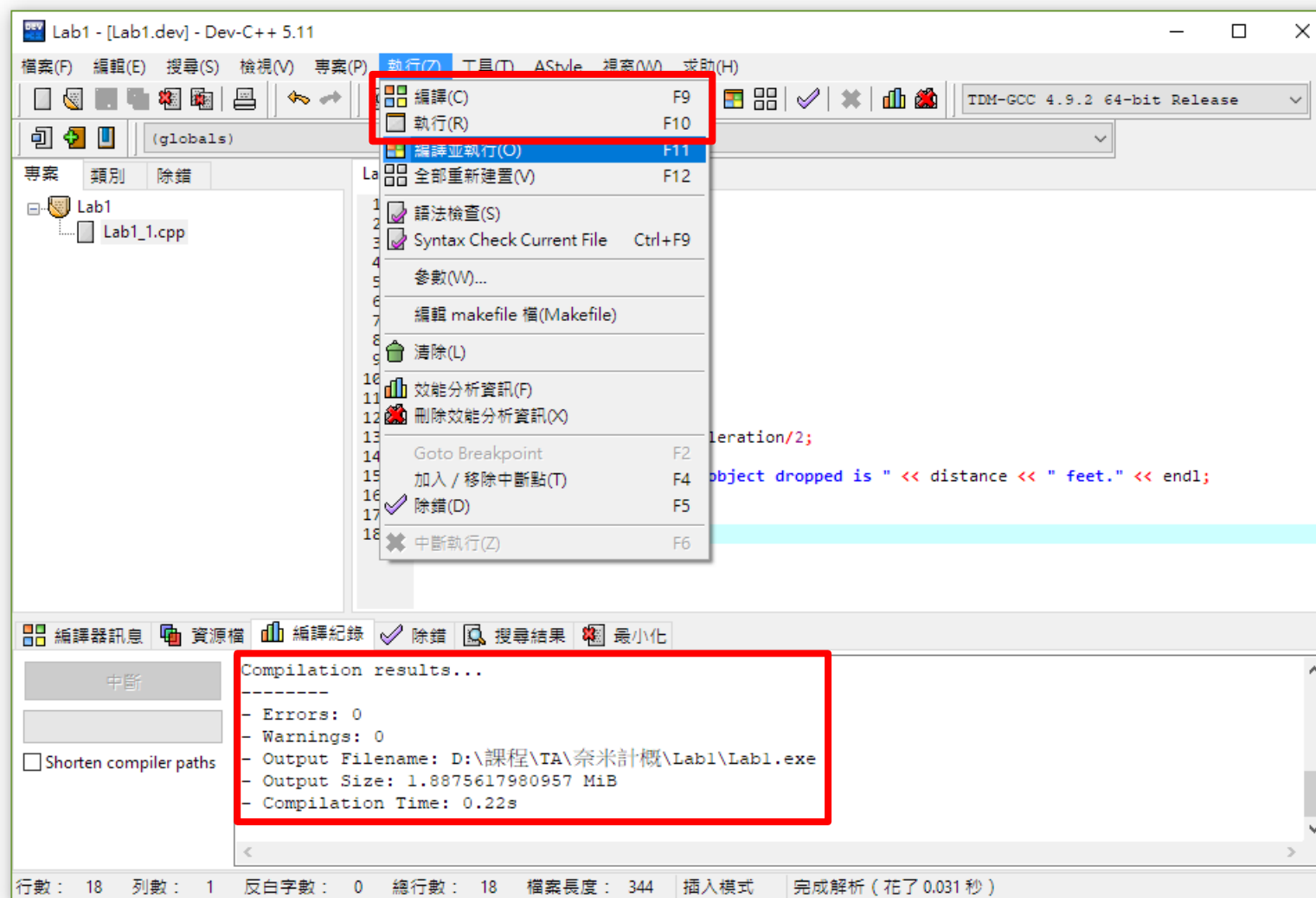




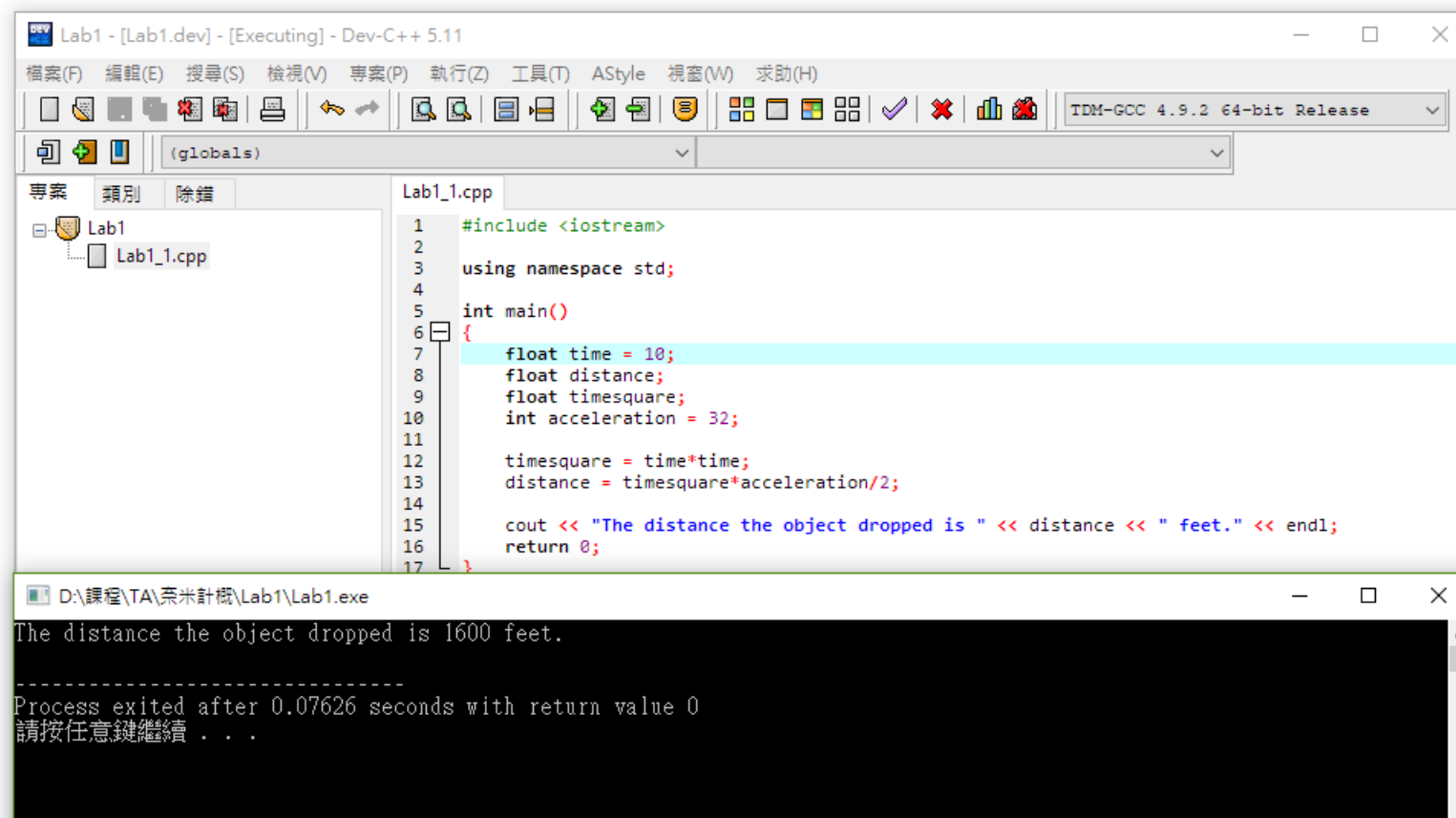




Build and run



The output console



The screenshot displays the Dev-C++ 5.11 IDE. The main window shows a C++ program in `Lab1_1.cpp`. The code calculates the distance an object falls in 10 seconds with an acceleration of 32. The output console at the bottom shows the program's execution results.

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main()
6  {
7      float time = 10;
8      float distance;
9      float timesquare;
10     int acceleration = 32;
11
12     timesquare = time*time;
13     distance = timesquare*acceleration/2;
14
15     cout << "The distance the object dropped is " << distance << " feet." << endl;
16     return 0;
17 }
```

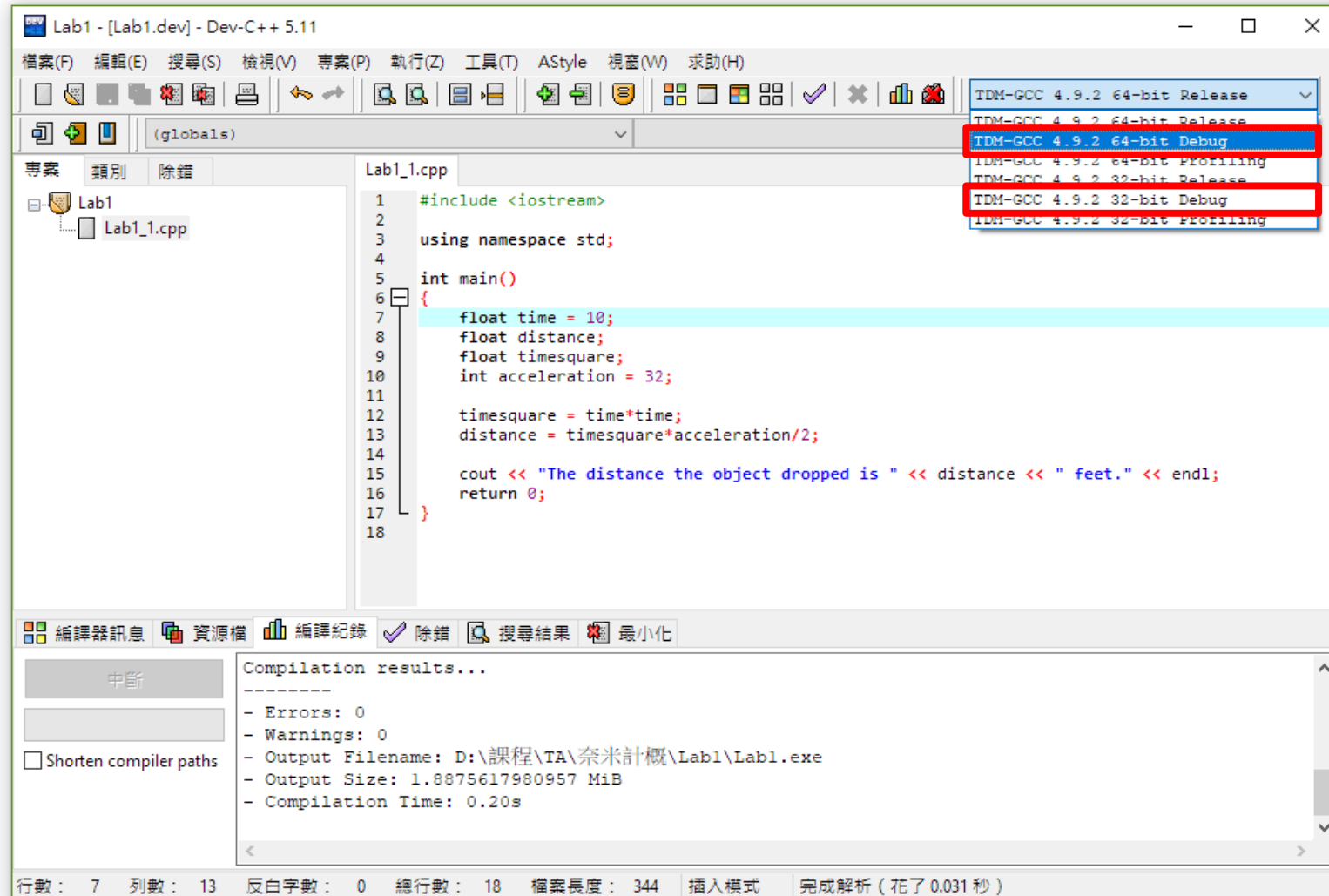
Output console (D:\課程\TA\奈米計概\Lab1\Lab1.exe):

```
The distance the object dropped is 1600 feet.
-----
Process exited after 0.07626 seconds with return value 0
請按任意鍵繼續 . . .
```

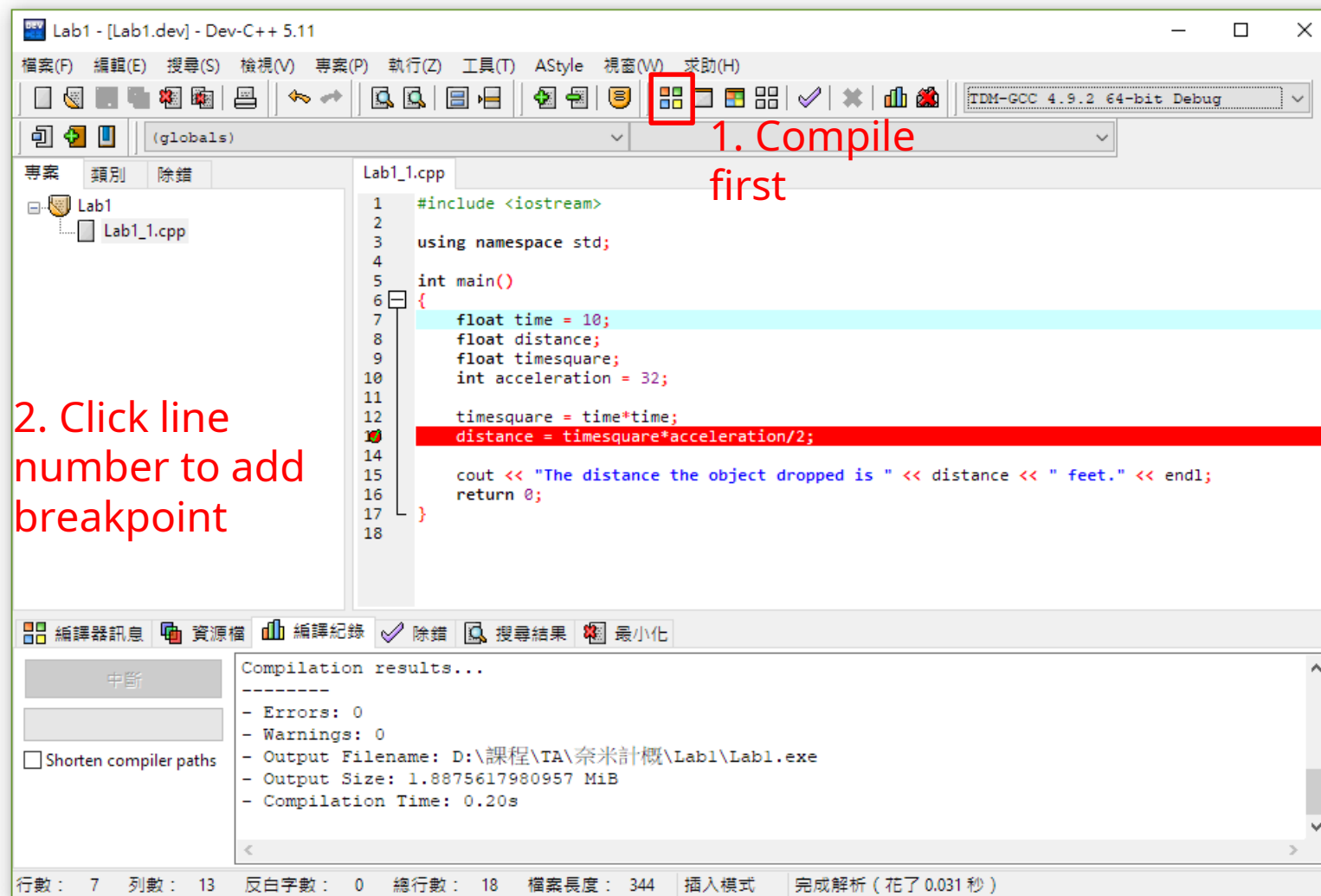
Note

- In order to improve your programming skill, you need to know how to debug.
- Therefore, don't always raise your hand, and **try to solve the errors by yourself.**

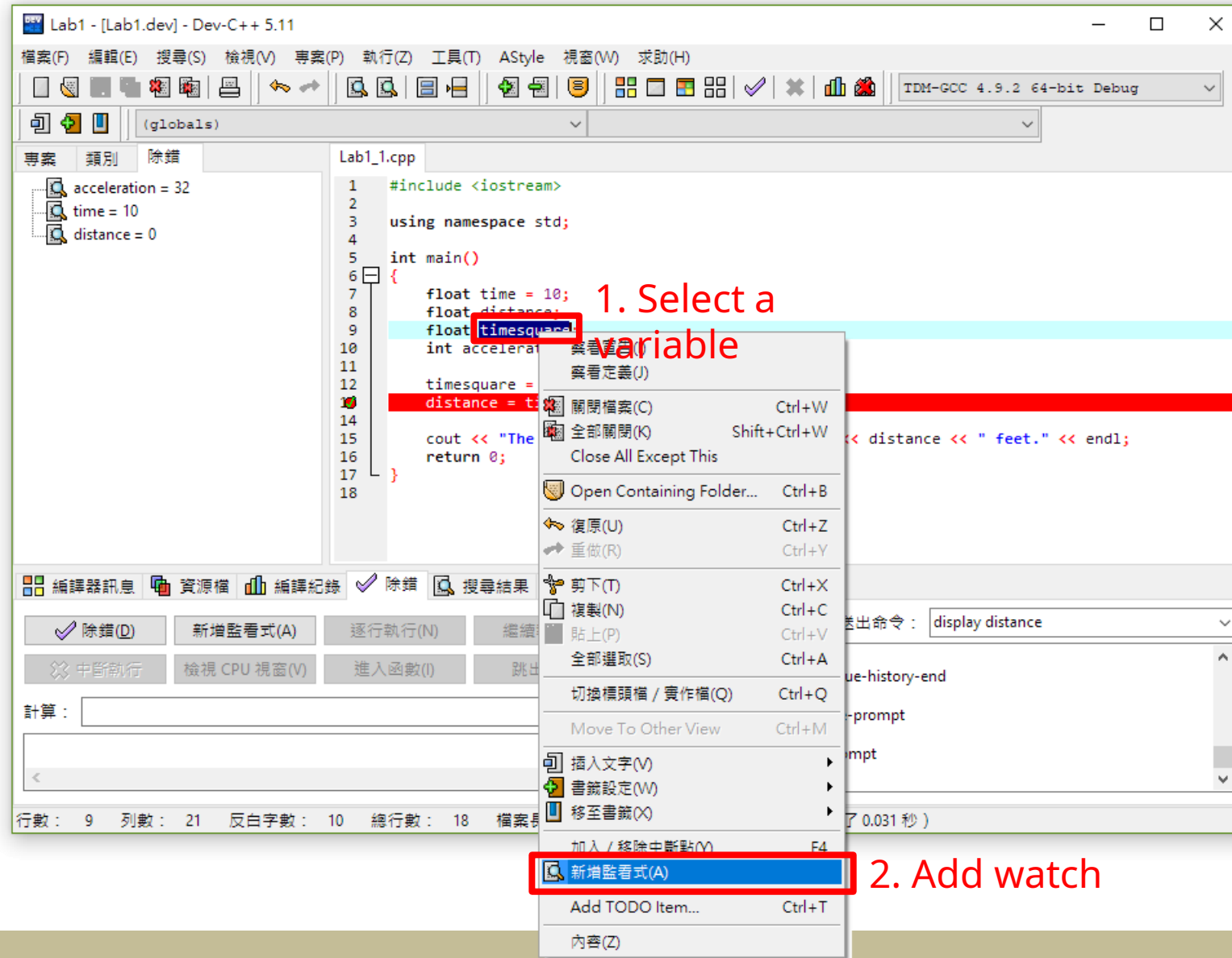
Debug mode



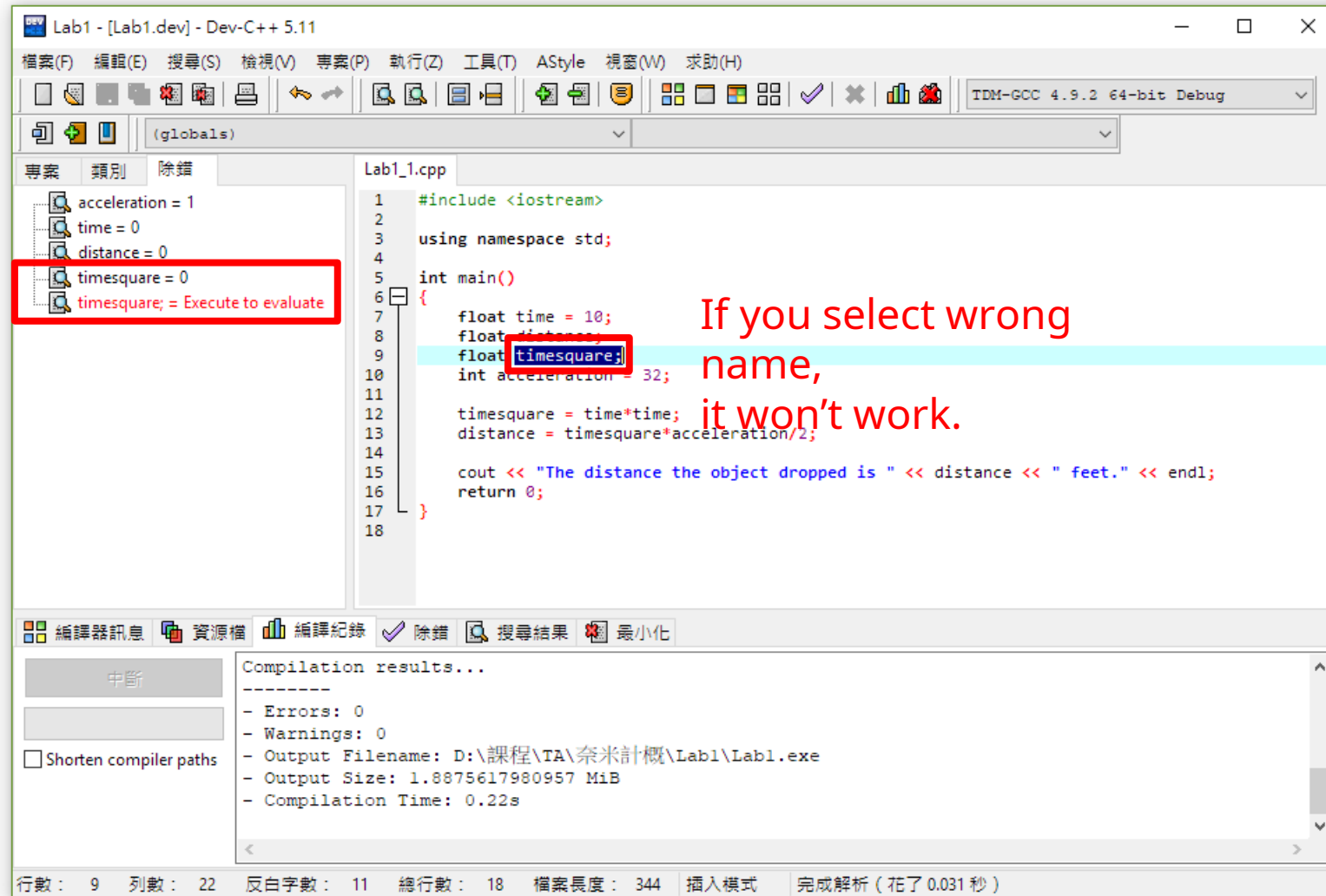
Breakpoint



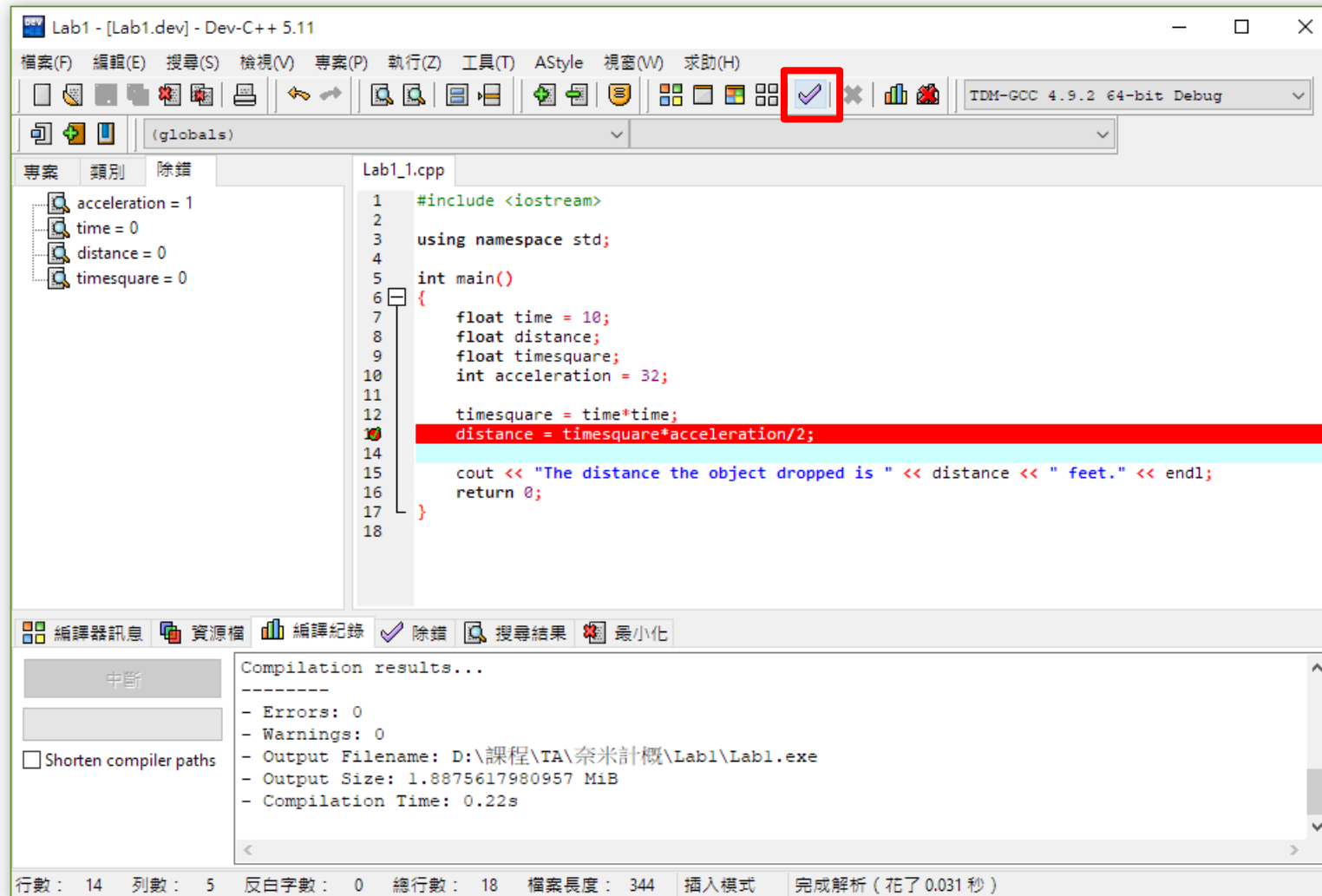
Add watch (1/2)



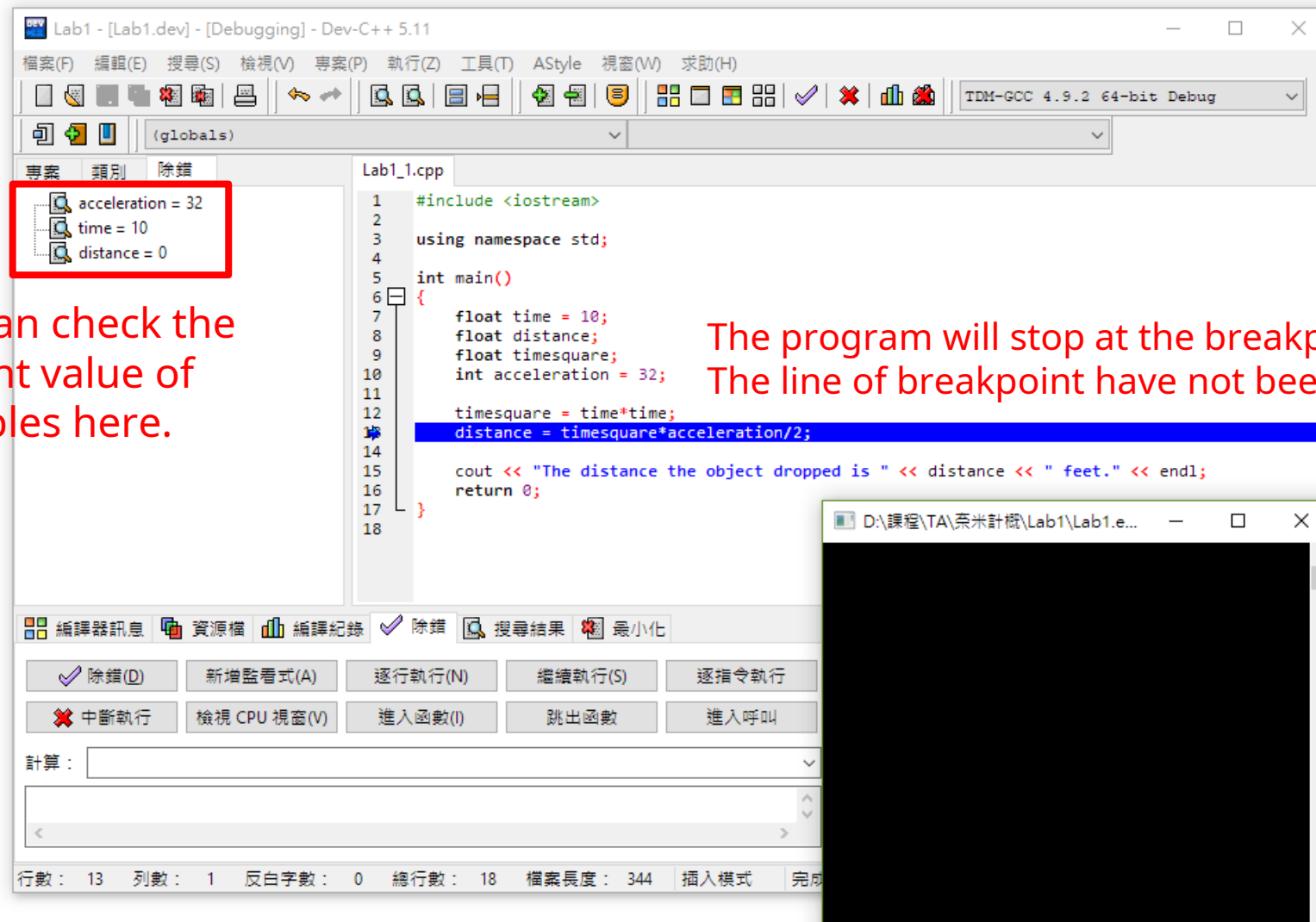
Add watch (1/2)



Start debugging



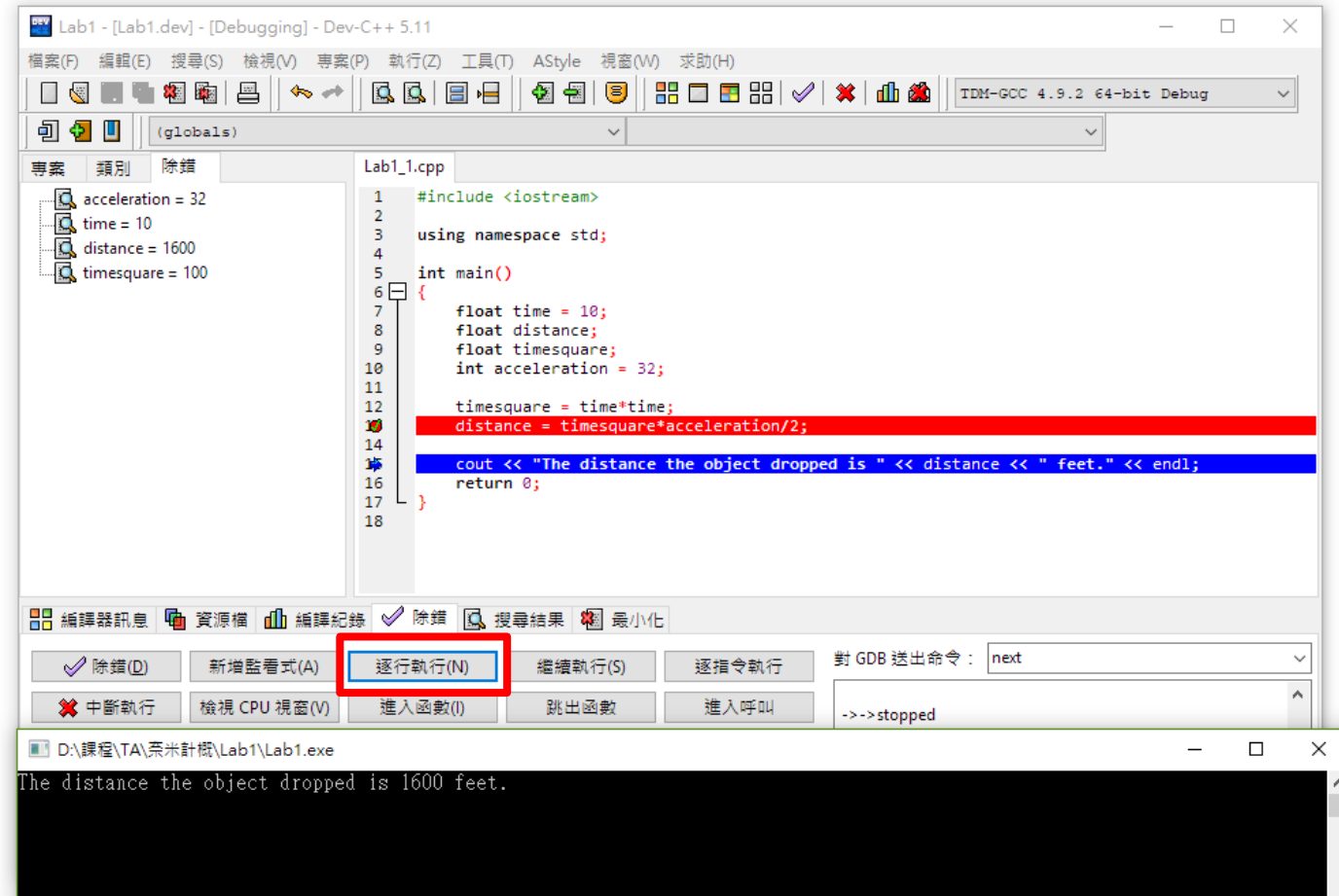
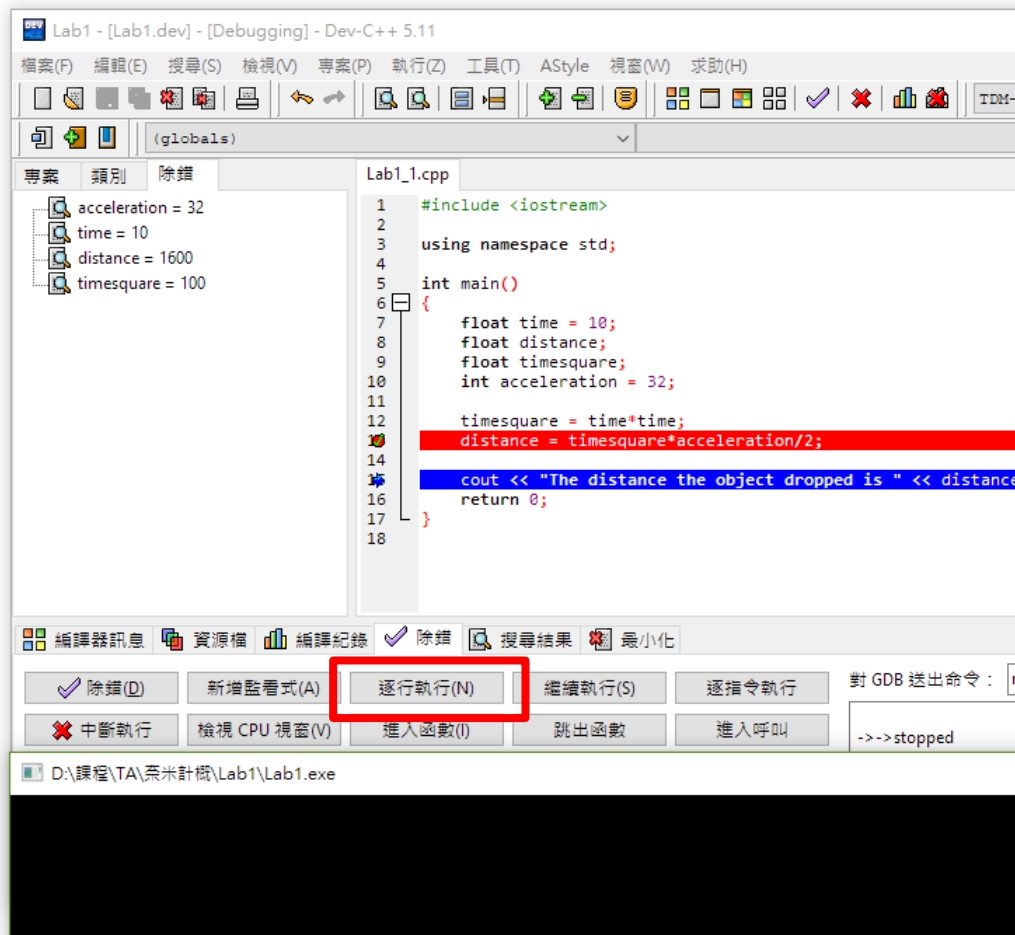
Start debugging



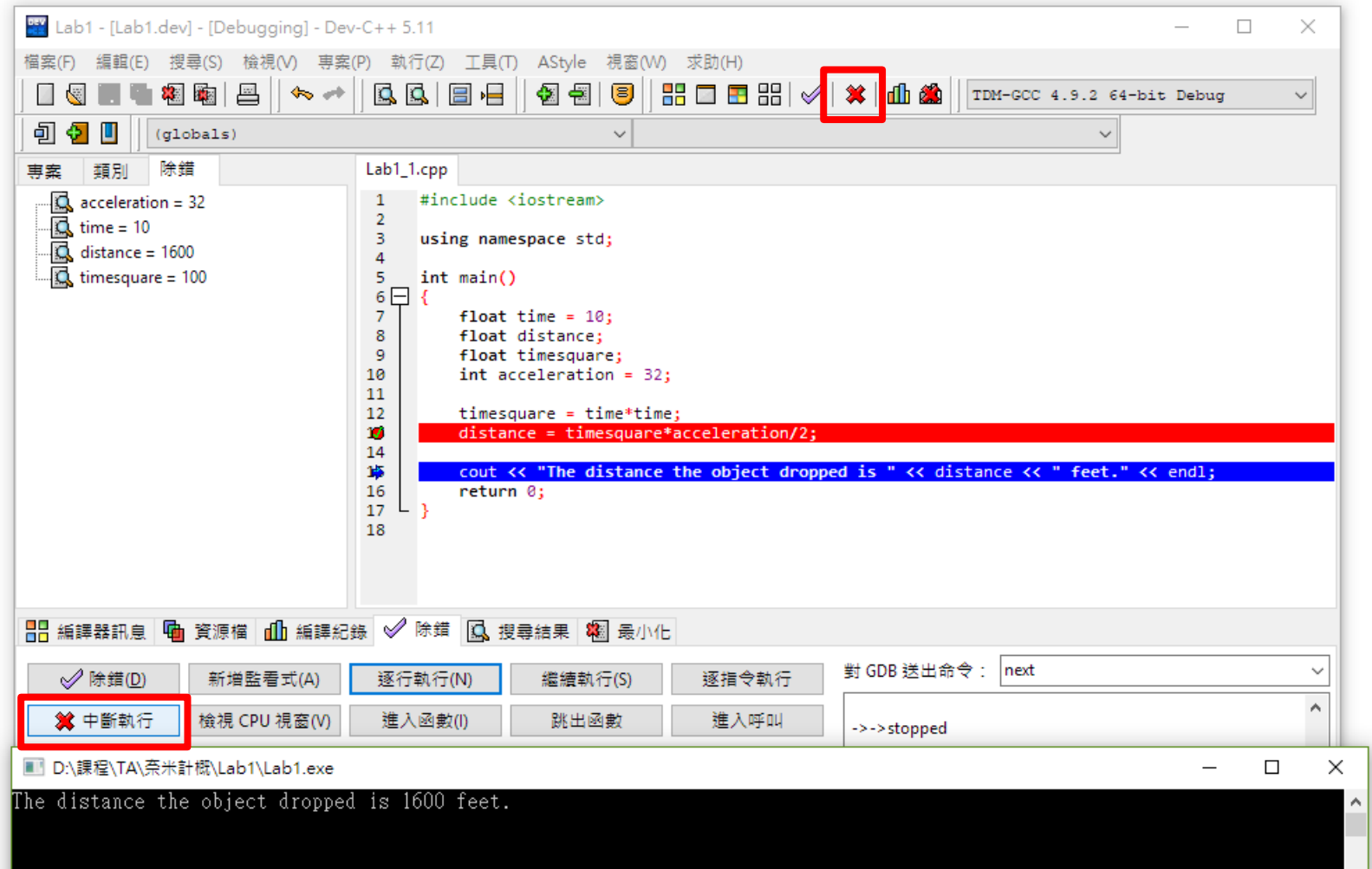
You can check the current value of variables here.

The program will stop at the breakpoint.
The line of breakpoint have not been implemented yet.

Implement next line



Stop debugging



Cin & Cout

- The extraction operator (>>) brings data from keyboard.
- Example :
 - `int age;`
 - `cout << "Enter your age: ";`
 - `cin>> age;`
 - `cout<< age << endl;`
- the first value read is stored in age

Exercise 1

- 請於Hour of Code完成一個課程(截圖),並說明該課程的簡要內容;若你不曾寫過程式,說一下課程讓你對程式有什麼認識?
- 若你曾學過程式,比較一下課程與你的學習經驗的異同。
- 請以word文件繳交至E3。
- Naming rule : studentID_Lab1_1.word

Exercise 2

- 安裝及熟練Dev C++ 5.11免安裝版操作
 - 下載安裝軟體並做好環境設定
 - 使用cout練習輸出如下圖,並仿作再自行設計另一圖。
 - 請熟悉程式編輯器(editor)操作含快捷鍵使用,並學會存檔(請回答會產生那幾個原始檔案)、編譯(compile)、執行(execute)(並觀察又多了那些檔案)?



Exercise 3

- 熟悉Dev C++的除錯
 - 重做課堂講義範例,並多加一段程式可以輸入攝氏溫度,輸出華氏溫度
 - 設定中斷點、增設監看式,觀察程式執行中變數值的變化。

```
Hello World!  
交大奈米學士班 棒!棒!棒!  
integer:4Bytes, largest integer=2147483647  
嗨!請問大名:系辦姐姐  
系辦姐姐你好呀,請問你多高呀?160  
過年吃多動少,標準體重只能介於55~45Kg  
  
Input Celsius temperature? 17  
17*C = 62.6*F  
-----  
Process exited after 18.43 seconds with return value 0  
請按任意鍵繼續 . . .
```

Submission

- Ask TAs for demo
- Upload all your .cpp to new E3
- Naming rule : studentID_Lab1_X.cpp
 - Ex: 309510123_Lab1_1.cpp 、 309510123_Lab1_2.cpp