

## Supplement I.C

### Creating, Compiling and Running C++ Programs from the Command Window

For Introduction to C++ Programming

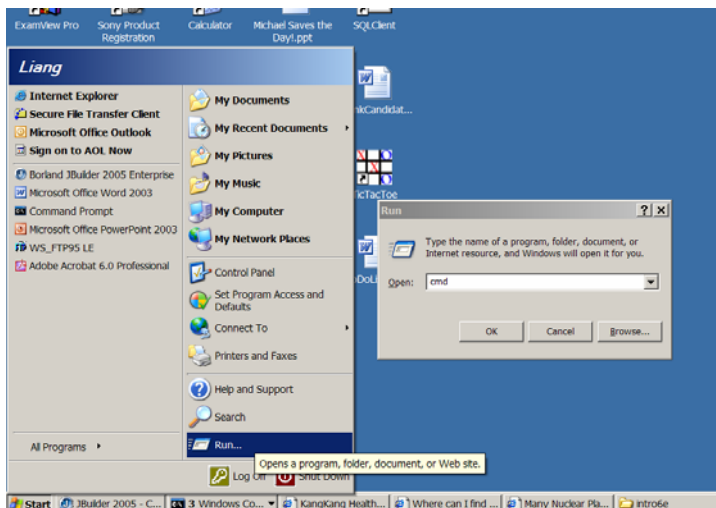
By Y. Daniel Liang

This supplement covers the following topics:

- Opening a Command Window (§1.2).
- Using Simple DOS Commands (create, change directories, display files, delete files and directories) (§1.3).
- Creating and Editing Programs Using Notepad and WordPad (§1.4).
- Compiling and Running Programs (§1.5).

#### 1.1 Introduction

Developing C++ programs from the command windows, you have to type the commands. Assume you have successfully installed a C++ compiler. Start a Command window by clicking the Windows Start button and choosing Run to open the Run dialog box, as shown in Figure 1.1. Enter `cmd` in the Open field and click OK to display a command window, as shown in Figure 1.2.



← The Run dialog

**Figure 1.1**

*You can start the command window from the Windows Start button.*

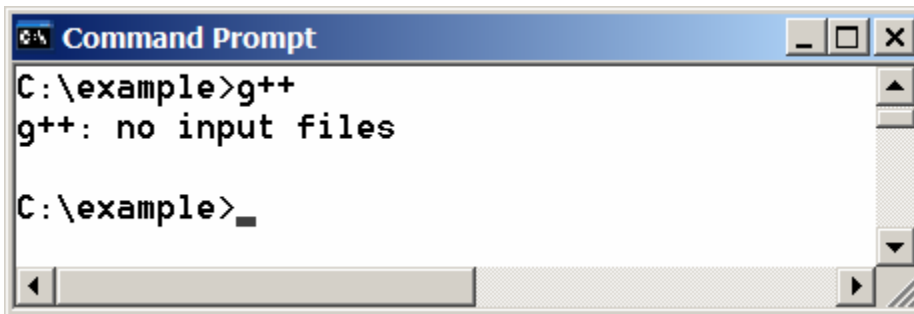
You will see the command prompt window displayed as shown in Figure 1.2.



**Figure 1.2**

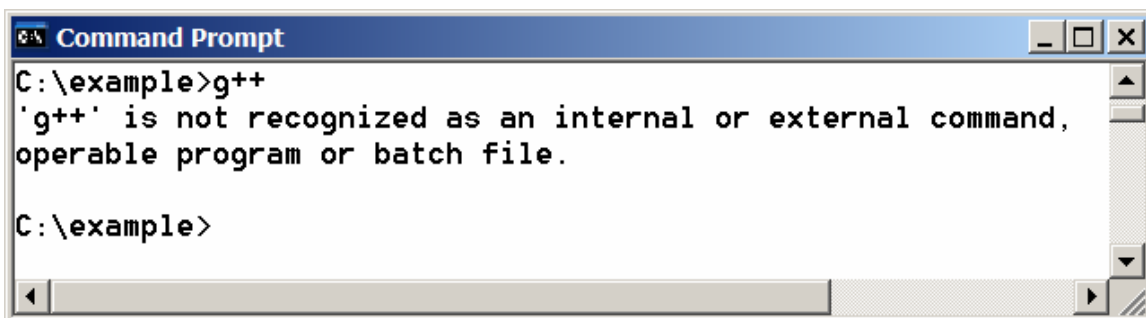
*You can type the commands in the command window.*

Now type `g++` in the DOS prompt. If your C++ compiler is configured properly, the command displays the message, as in Figure 1.3. Otherwise, an error message is displayed to indicate that the command is not found, as shown in Figure 1.4. To fix this problem, add `c:\MinGW\bin` to your Windows PATH environment variable.



**Figure 1.3**

*The `g++` command compiles C++ programs.*



**Figure 1.4**

*The `g++` command is not found if the command is not in the PATH.*

### 1.3 Simple DOS Commands

To work with JDK on Windows, you need to know some simple DOS commands. Here are several frequently needed commands:

- **dir** -- Lists all files in the directory.
- **mkdir dirName** -- Creates a new directory named dirName.
- **cd dirName** -- Changes to the specified directory. For example, **cd c:\** changes to the directory c:\
- **cd ..** -- Changes to the parent directory.
- **del filename** - Deletes a file. For example, **del Test.cpp** deletes the file named Test.cpp in the current directory.
- **del \*.\*** - Deletes all files in the directory. [Caution: files deleted from the command window cannot be recovered.]
- **rmdir dirName** - Deletes the specified directory dirName.
- **type filename.cpp** - Displays the contents of the specified file.

#### 1.4 Creating and Editing Programs Using Notepad and WordPad

You can create programs using Windows Notepad or WordPad. To do so, first open a command window; change the directory to where your programs should be stored, and type **notepad filename.cpp** or **write filename.cpp** to create a file for C++ source code. For example, the following command starts Notepad to create or edit Welcome.cpp:

```
notepad Welcome.cpp
```

If Welcome.cpp does not exist, a dialog box is displayed to alert you that it is a new file, as shown in Figure 1.5.

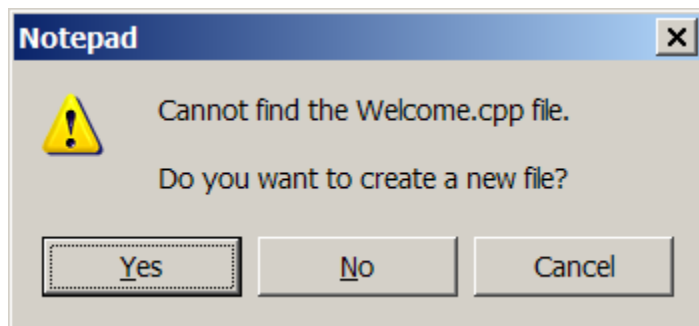
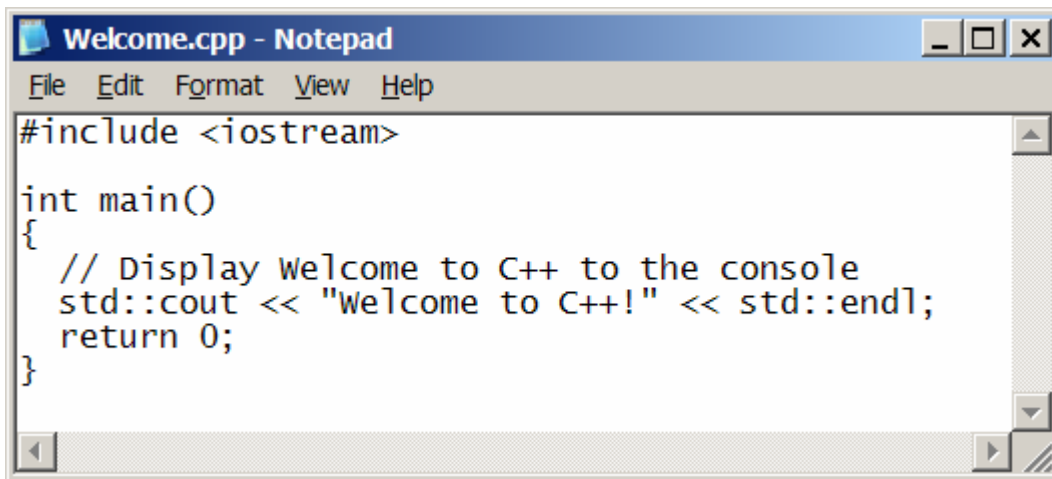


Figure 1.5

*The Notepad alerts you that the specified file is new.*

Click *Yes* to create a new file. You can type the code for

the program in the Notepad, as shown in Figure 1.6. Choose *File, Save* to save the file.

A screenshot of a Notepad window titled "Welcome.cpp - Notepad". The window has a menu bar with "File", "Edit", "Format", "View", and "Help". The text area contains the following C++ code:

```
#include <iostream>

int main()
{
    // Display Welcome to C++ to the console
    std::cout << "Welcome to C++!" << std::endl;
    return 0;
}
```

**Figure 1.6**

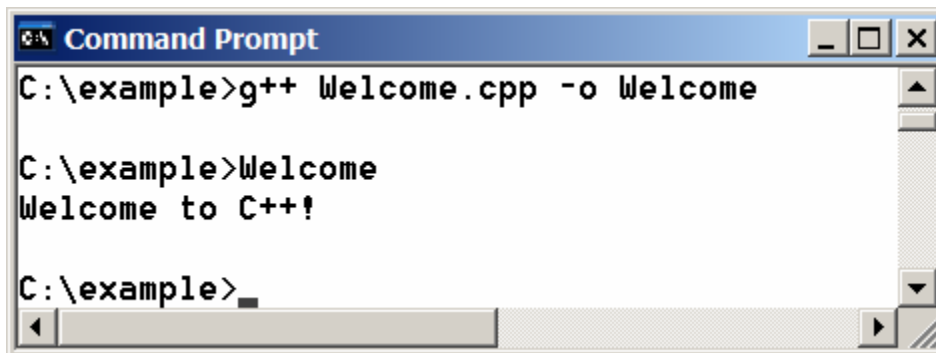
*You can use Notepad to create and edit C++ source files.*

### 1.5 Compiling and Running Programs

To compile the source code, use the **bcc32** command. For example, the following command compiles `Welcome.cpp`:

```
g++ Welcome.cpp
```

If compiled successfully, the executable file `Welcome.exe` is created. To run the file, simply type **Welcome**, as shown in Figure 1.7.

A screenshot of a Command Prompt window titled "Command Prompt". The prompt is at "C:\example>". The user has entered the command "g++ Welcome.cpp -o Welcome" and pressed Enter. The prompt is now "C:\example>Welcome". The user has entered "Welcome" and pressed Enter, resulting in the output "Welcome to C++!". The prompt is now "C:\example>".

```
C:\example>g++ Welcome.cpp -o Welcome

C:\example>Welcome
Welcome to C++!

C:\example>
```

**Figure 1.7**

*Compile and execute programs.*