

Setting up C++ Environment

Sublime Text Installation and G++ Compiler Set Up



“Hello World!”

I'm here to help you to get started with your programming journey! :)

Now for executing a program, you need an editor (for writing code) and a compiler (for translating the source code into machine understandable format)

For our purpose we'll using:

- 1) **Sublime Text** as editor (it is easy to use, compatible with all languages and it's system requirements are minimal).
- 2) g++ as **Compiler**.

Installation

Ubuntu/Linux

g++ Installation:

- 1) `sudo apt-get install g++`

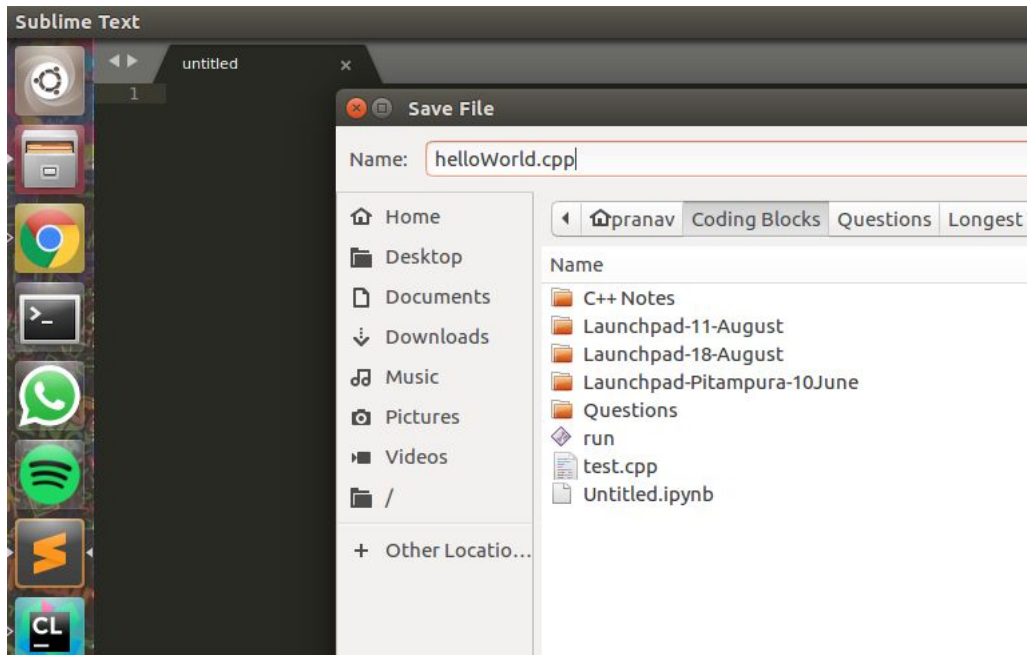
Sublime Installation:

You can refer sublime text website <https://www.sublimetext.com/> to install sublime text editor or install via command line using the following steps.

- 1) Open terminal via Ctrl+Alt+t or by searching for "Terminal" from desktop app launcher.
`wget -qO - https://download.sublimetext.com/sublimehq-pub.gpg | sudo apt-key add -`
- 2) `echo "deb https://download.sublimetext.com/ apt/stable/" | sudo tee /etc/apt/sources.list.d/sublime-text.list`
- 3) `sudo apt-get update`
- 4) `sudo apt-get install sublime-text`

Testing:

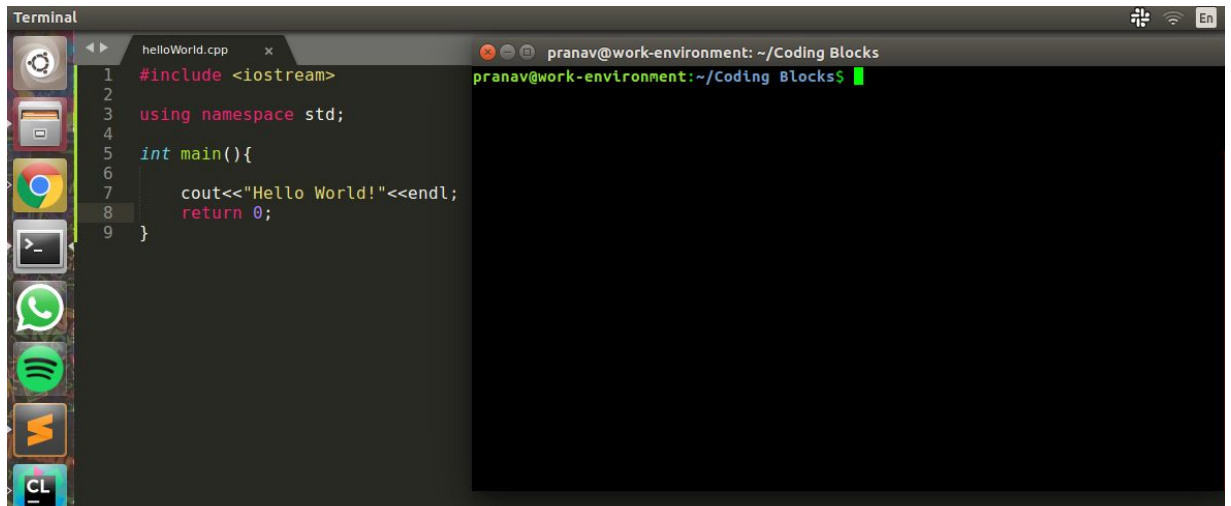
- 1) Open sublime text and save file with the format filename.cpp.



2) Now let's write a simple C++ code.



- 3) Open terminal via Ctrl+Alt+t or by searching for “Terminal” from desktop app launcher, and direct to the directory where the cpp file is located.

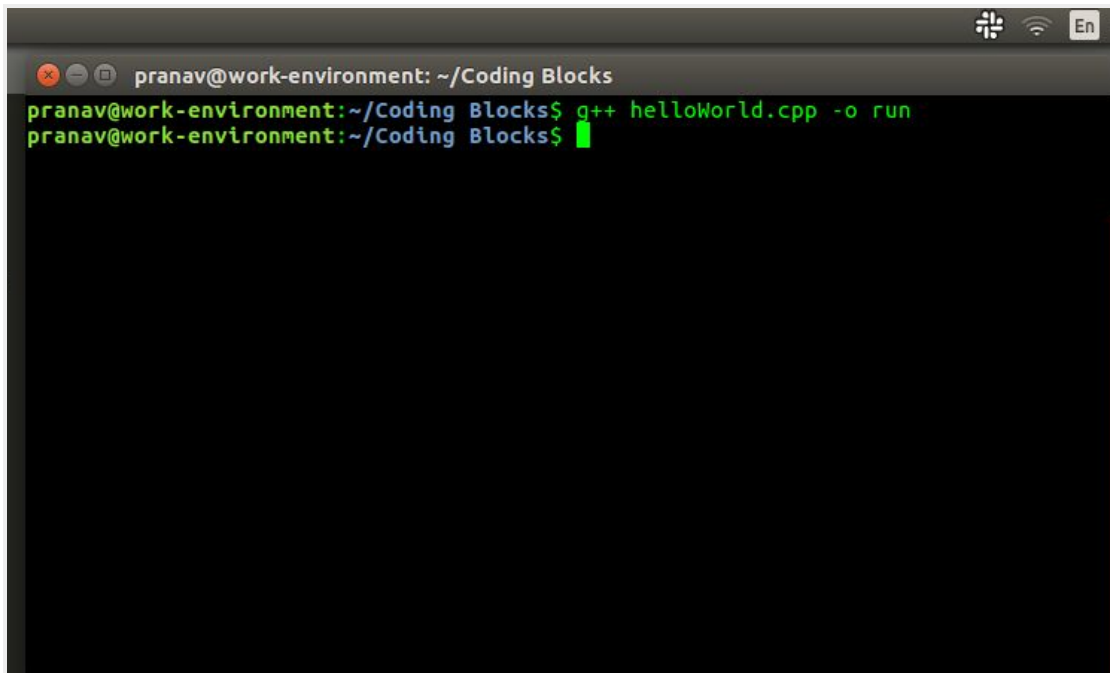


The screenshot shows a terminal window with a dark background. On the left, there is a sidebar with various application icons. The main window is split into two panes. The left pane displays the contents of a file named `helloWorld.cpp` with line numbers 1 through 9. The code is as follows:

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(){
6
7     cout<<"Hello World!"<<endl;
8     return 0;
9 }
```

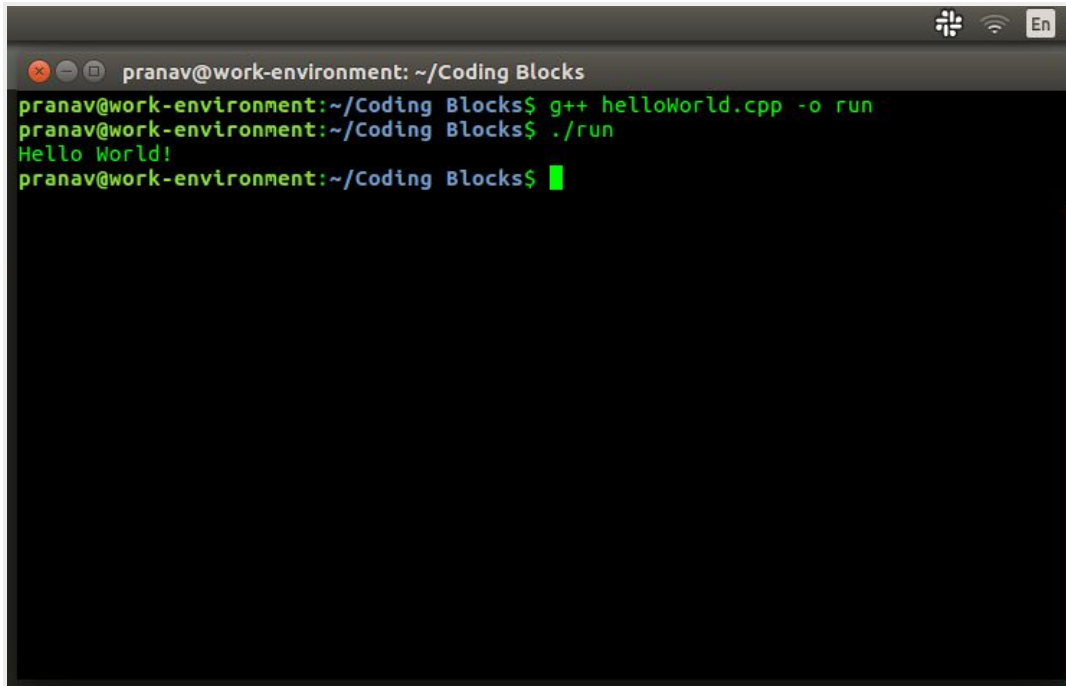
The right pane shows the terminal prompt `pranav@work-environment: ~/Coding Blocks` and a green cursor.

- 4) Now to build the source code, type this command in the terminal
- ```
g++ filename.cpp -o run
```



The screenshot shows a terminal window with a dark background. The terminal prompt is `pranav@work-environment: ~/Coding Blocks`. The command `g++ helloWorld.cpp -o run` has been entered and executed, resulting in a new prompt.

- 5) Now to execute the file, type the command : `./run`

A terminal window with a dark background and light green text. The window title is "pranav@work-environment: ~/Coding Blocks". The terminal shows the following commands and output:

```
pranav@work-environment:~/Coding Blocks$ g++ helloWorld.cpp -o run
pranav@work-environment:~/Coding Blocks$./run
Hello World!
pranav@work-environment:~/Coding Blocks$
```

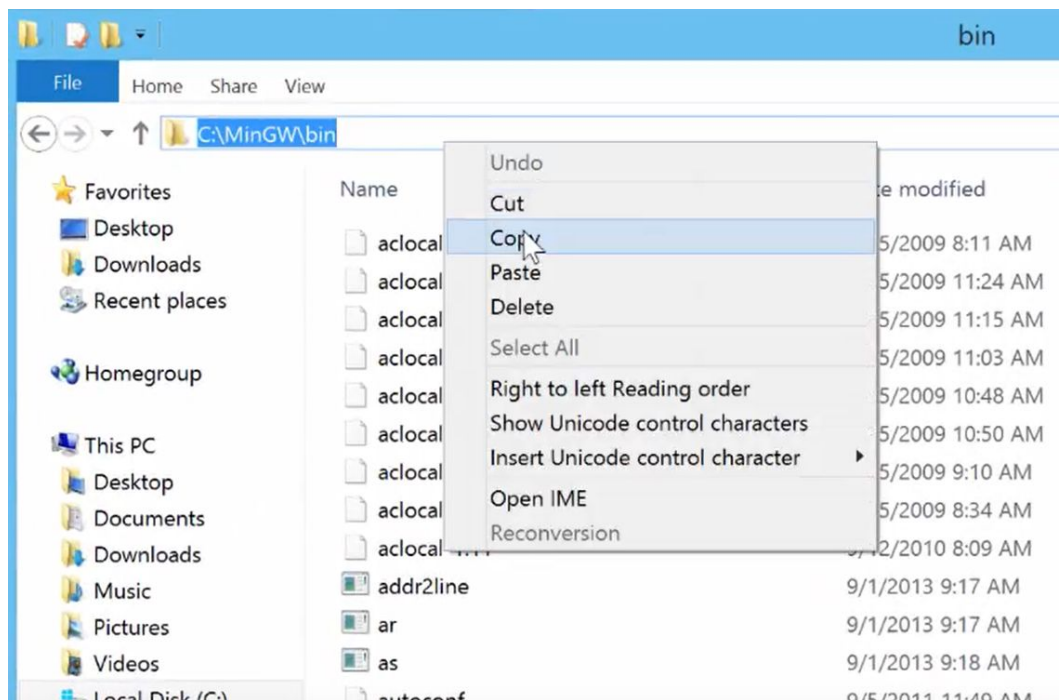
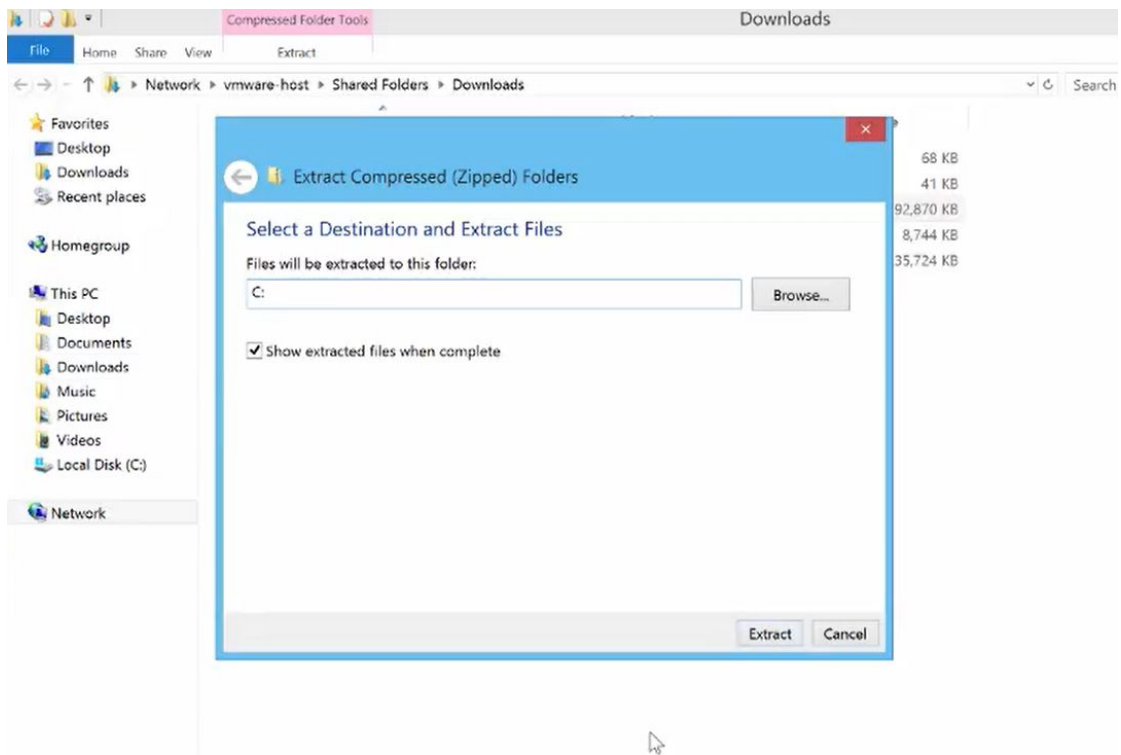
## Windows

### Sublime Installation:

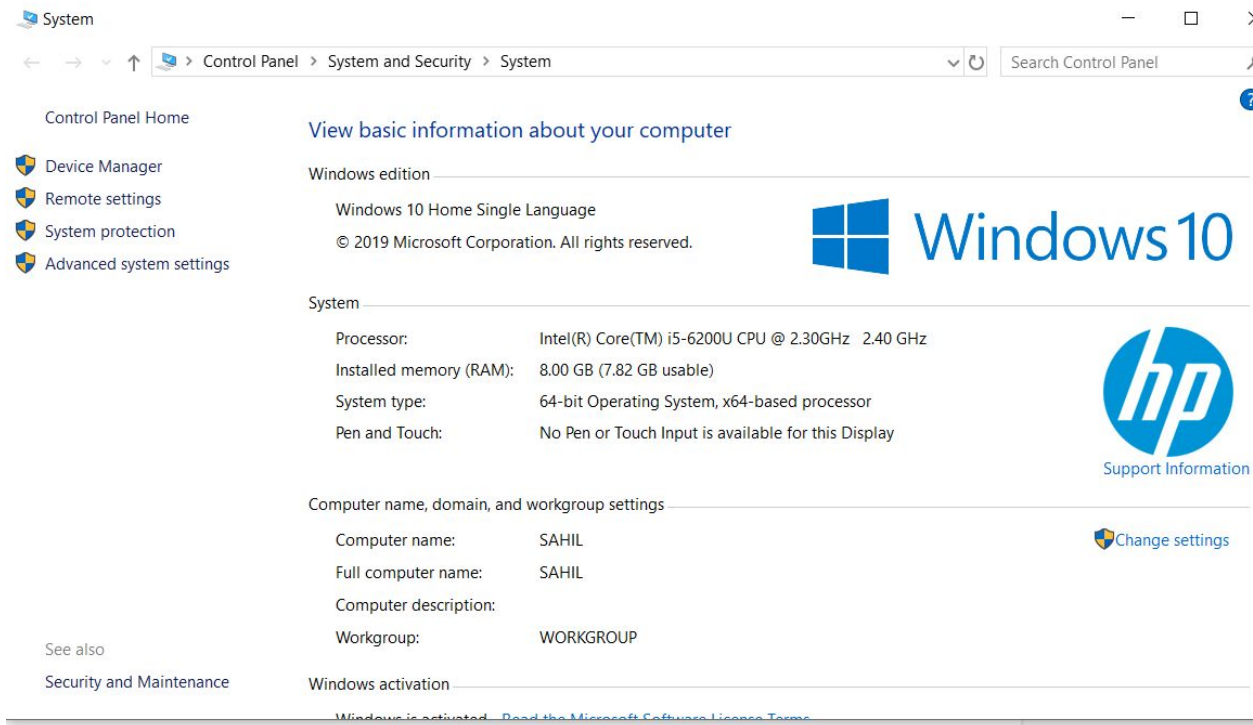
- 1) Go to [cb.lk/editor](https://cb.lk/editor) to download sublime text setup for windows and install it.

### g++ Installation:

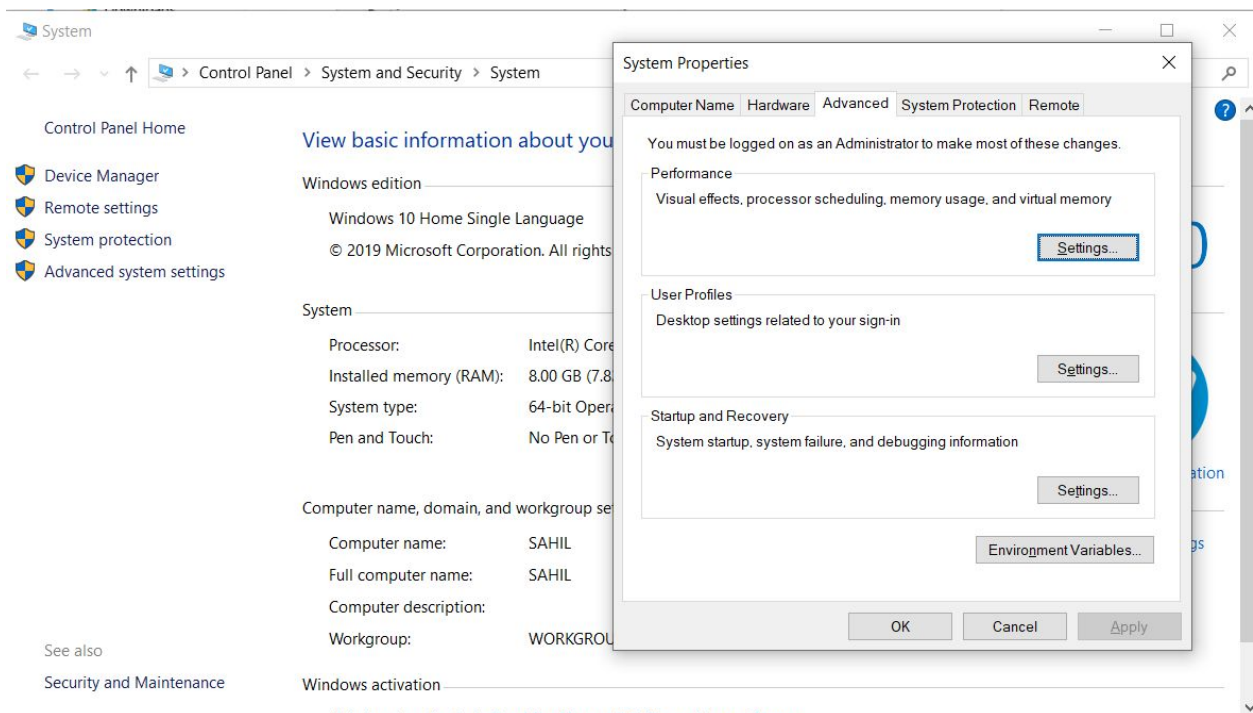
- 1) Go to [cb.lk/compile](https://cb.lk/compile) to download minGW.zip
- 2) Go to downloads and extract all the components of minGW.zip
- 3) While extracting the component of minGW.zip set location as C:



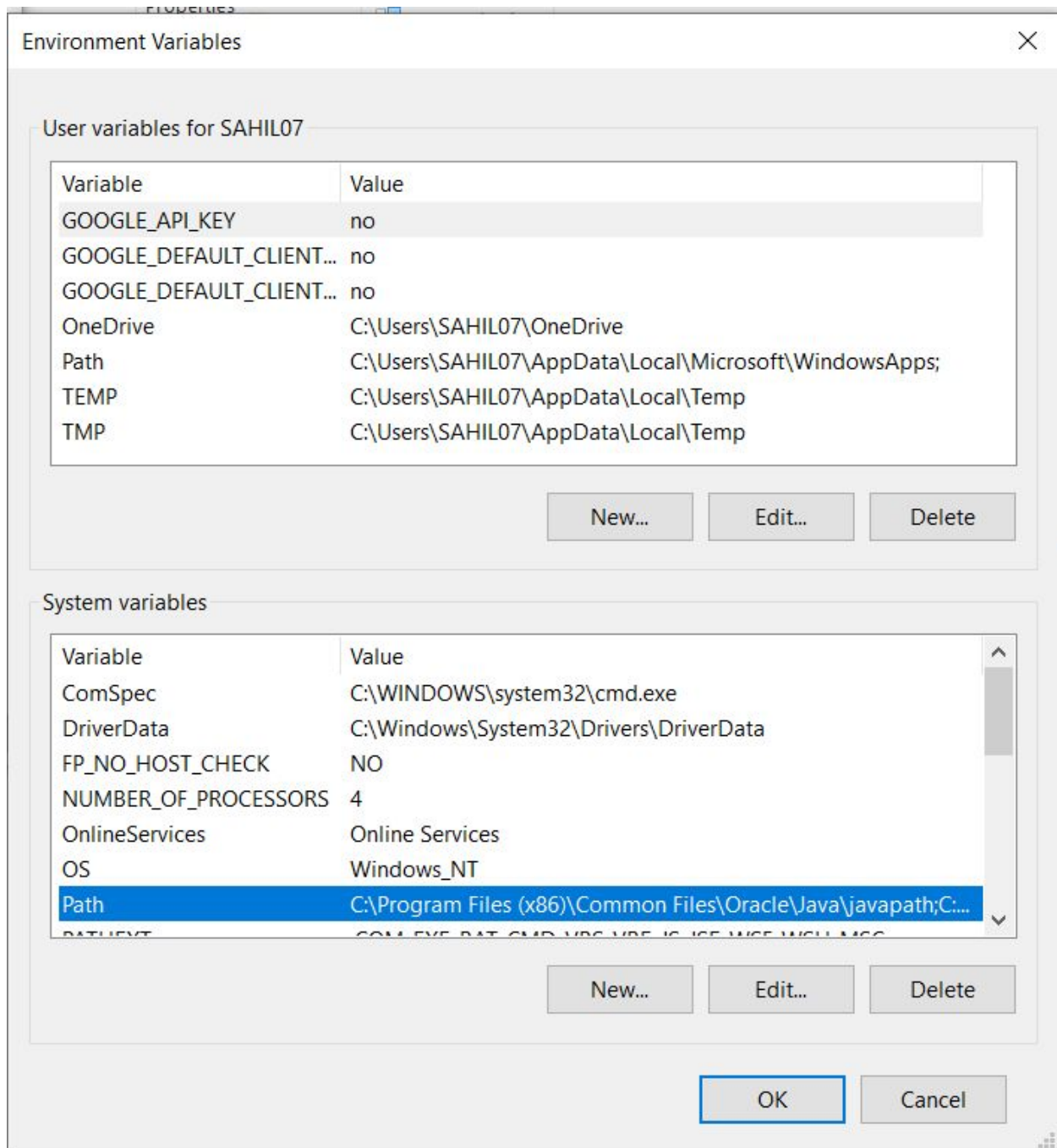
5) Now go to This PC and right click and click on properties



6) Click on Advanced system settings and a window of System Properties will open.

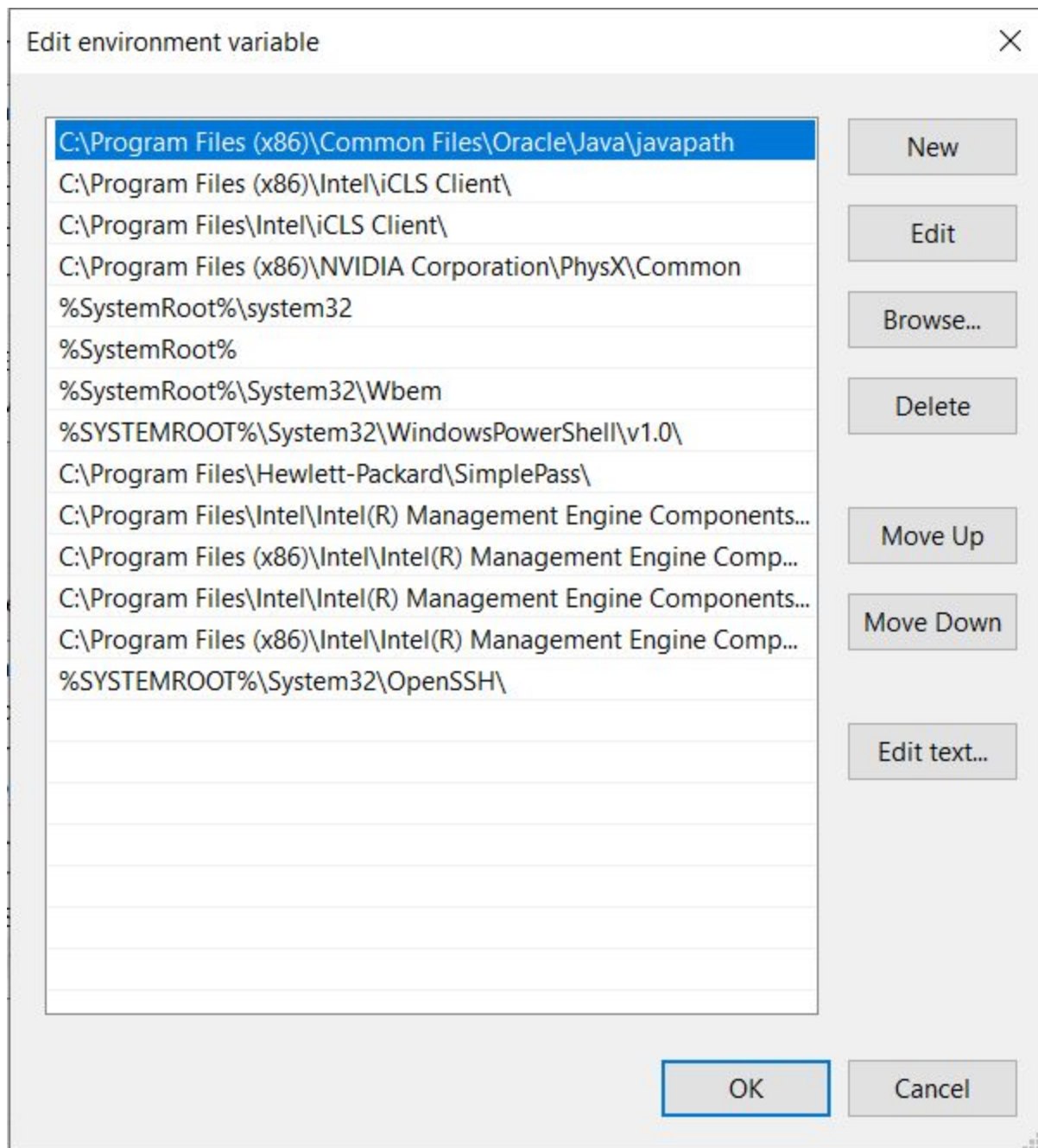


7) Now go to Environment Variable and under System variables, double click on path

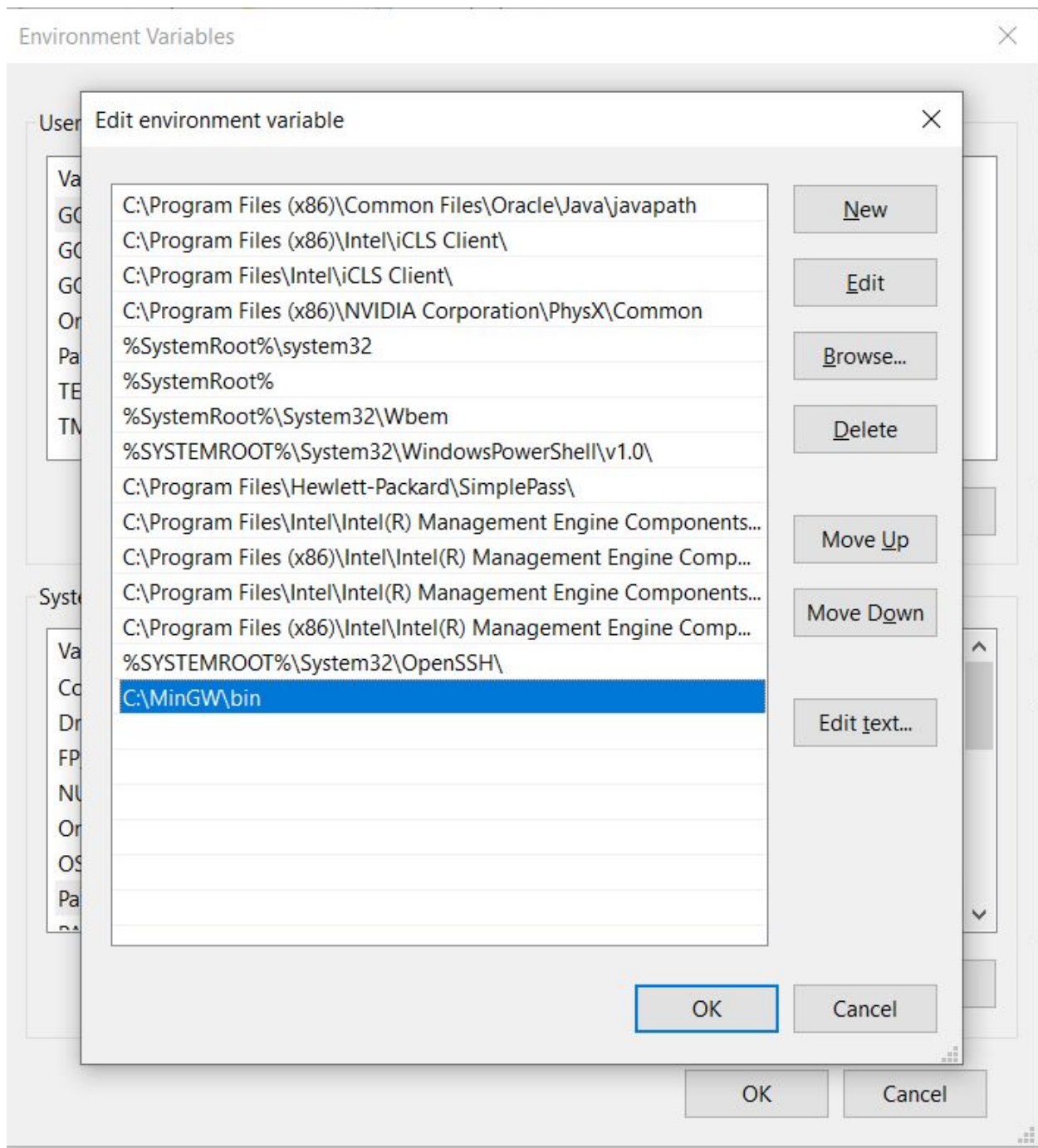




**8) Now click on new to add a new path**



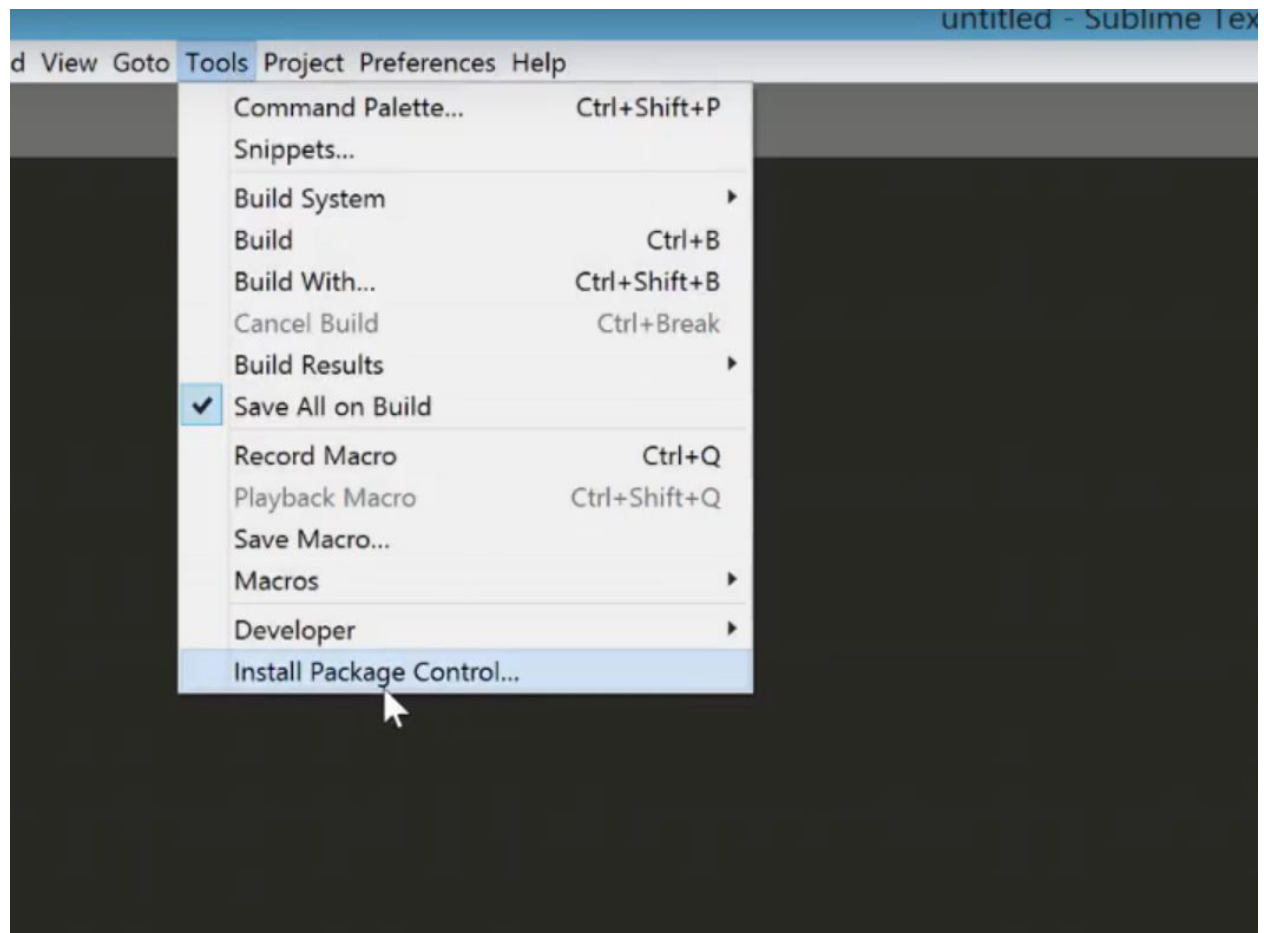
**9) Paste the C:\MinGW\bin in the new path**



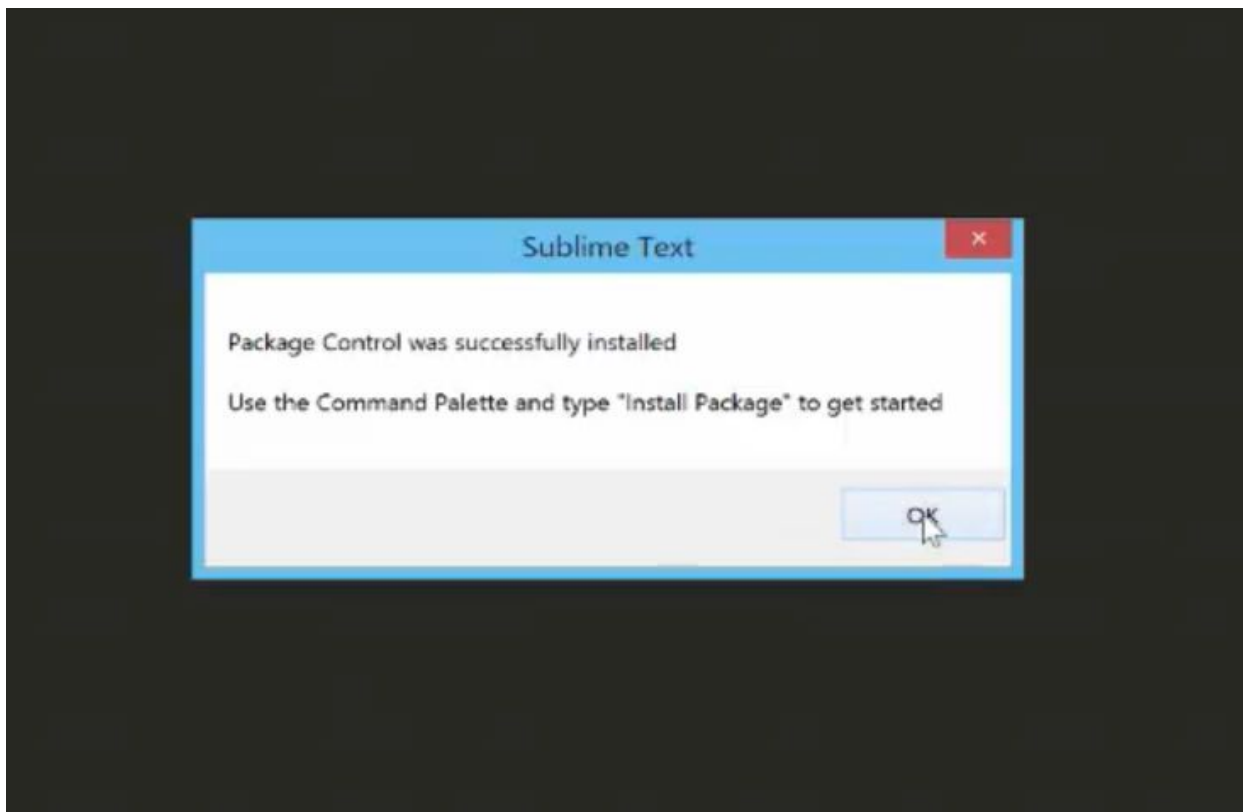
**10) g++ is installed.**

**11) Now let's integrate sublime with g++.**

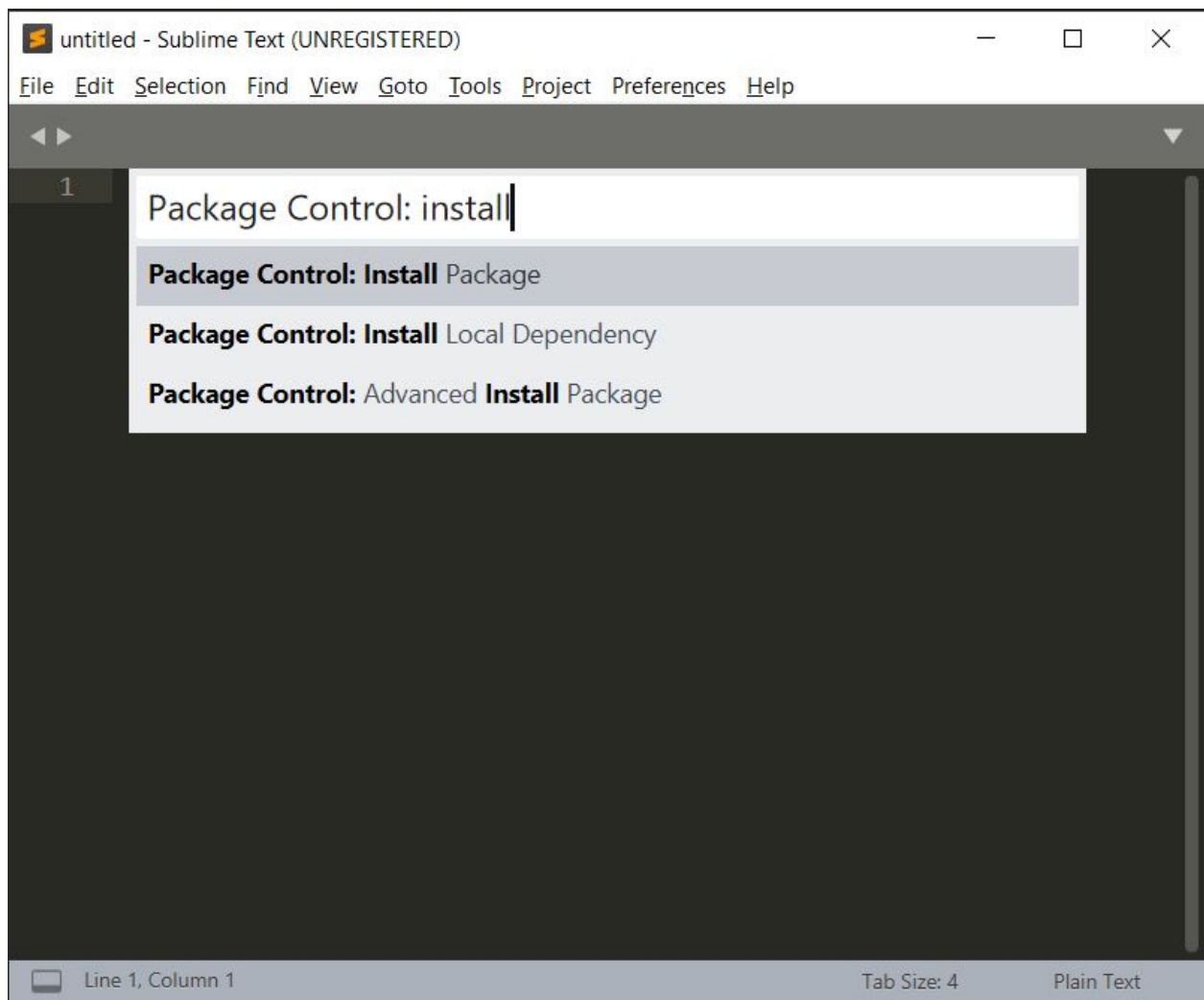
**12) Now open sublime and go to Tools and select Install Package Control...**



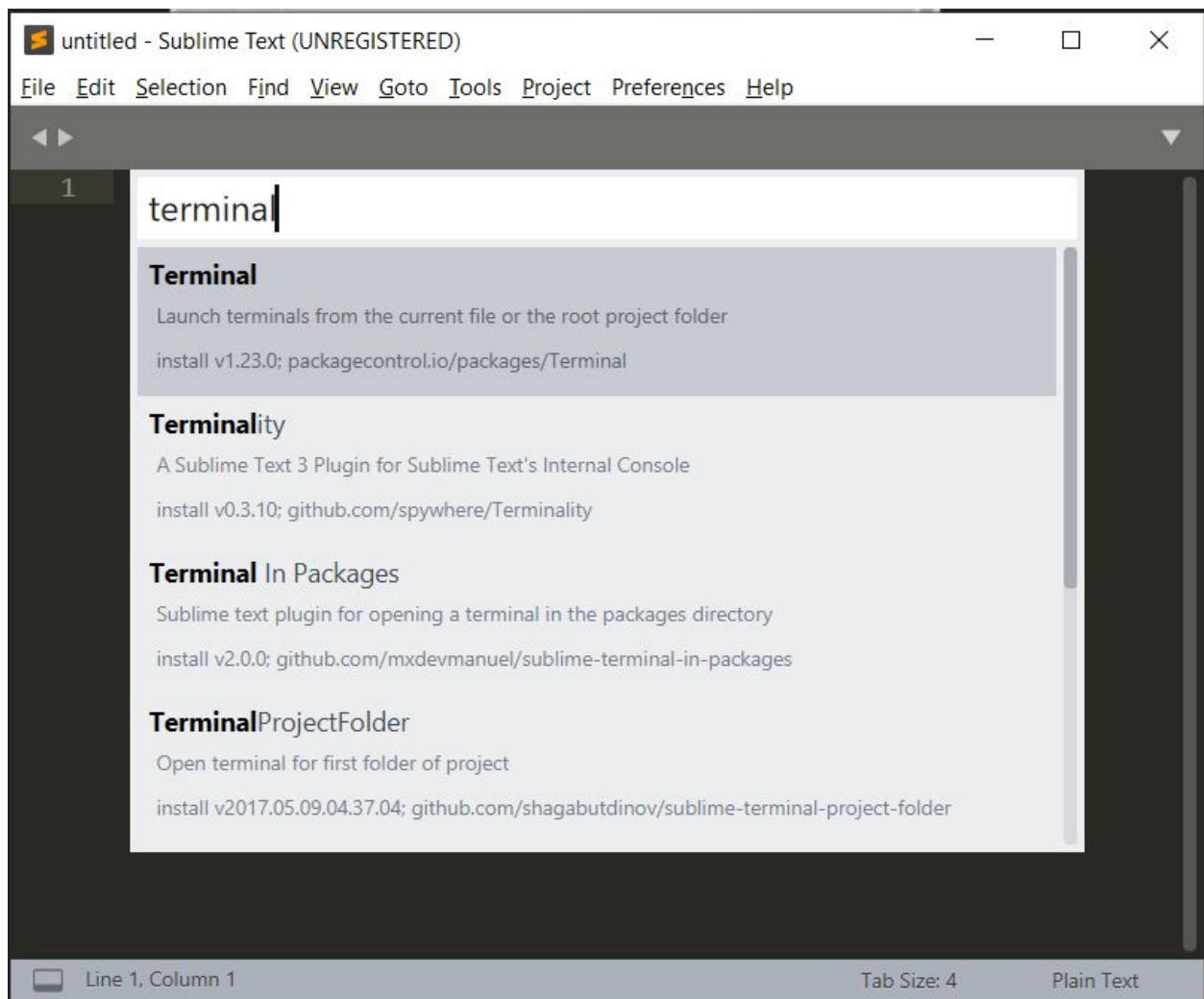
13) Wait for a few seconds, a pop will come up stating that Package Control is installed.



- 14) Now go to preferences and select Package Control, after selecting a search window will pop up. Search for the keyword “install” and select the first option that is, Install Package and then wait for a few seconds.



- 15) Once the Package is installed another search bar will appear and now search for the keyword “terminal” and select the first option that is, Terminal.

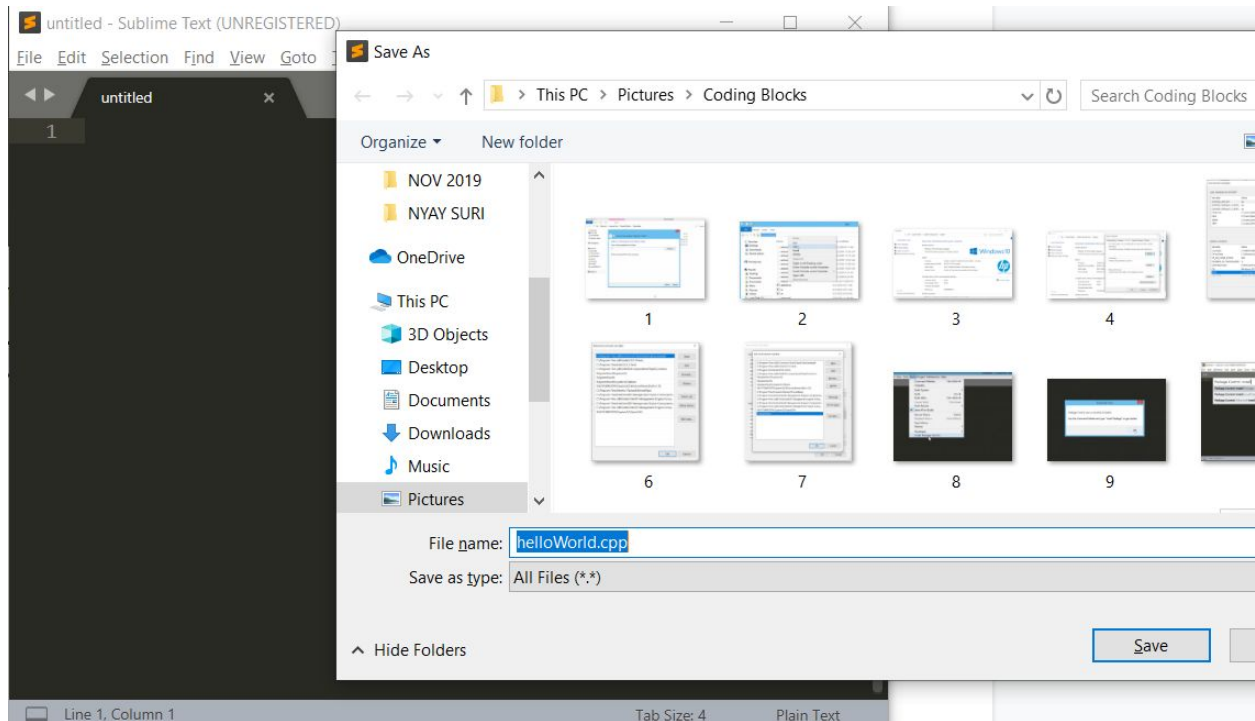


That's it, sublime text is now integrated to g++ compiler.

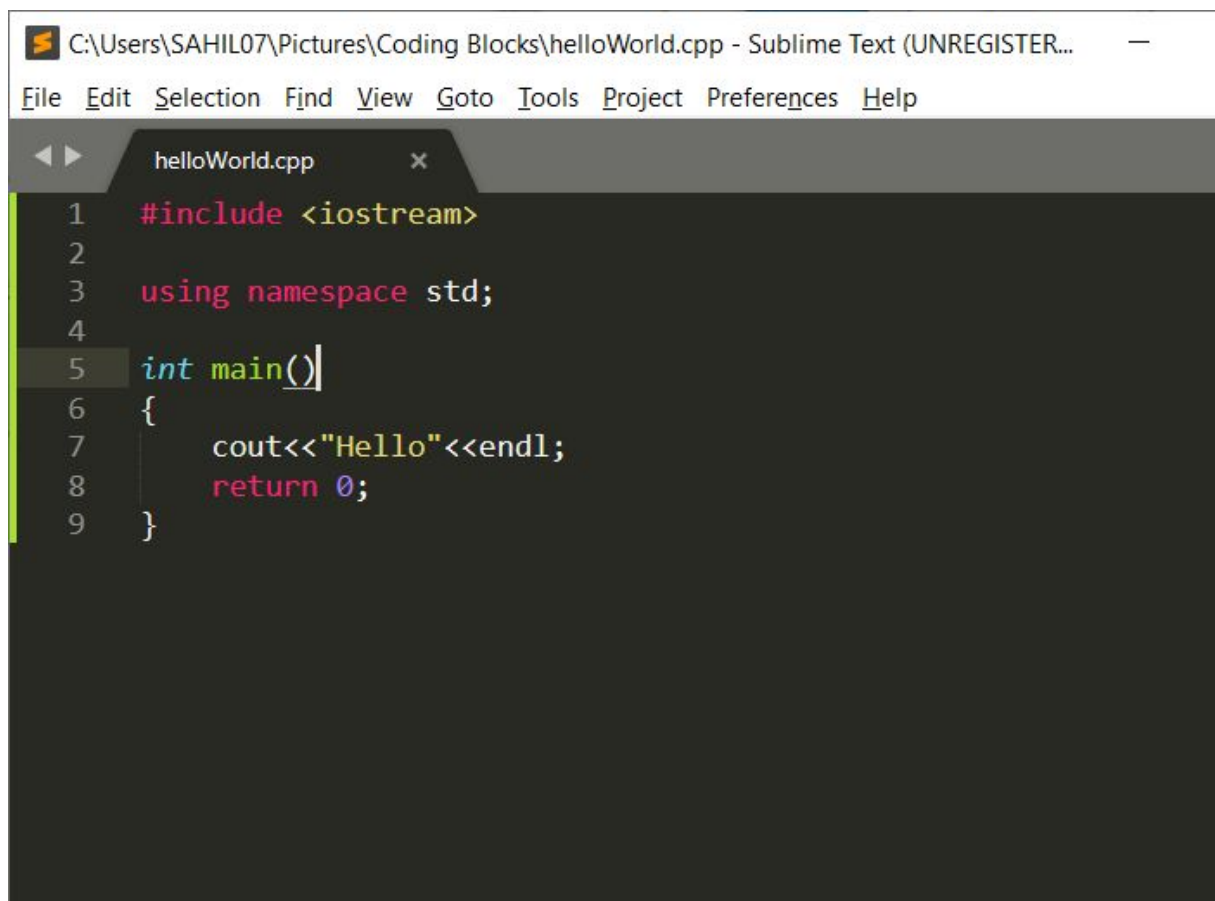
## Testing:

Now let's test our installation by running a simple Hello World code on C++.

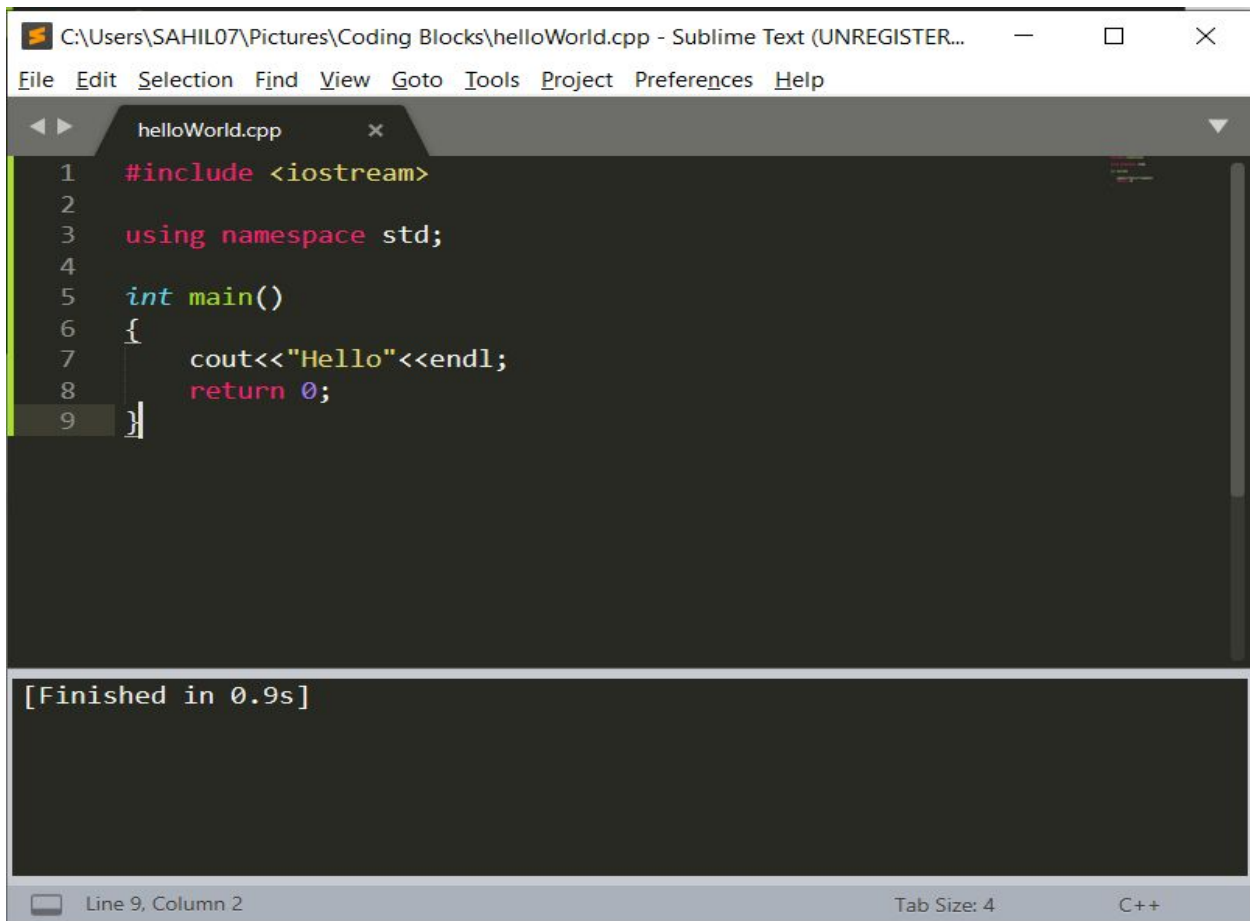
- 1) First save the empty sublime text editor on system with -> filename.cpp.  
Here cpp specifies that it is a C++ file.



2) Now let's write a simple C++ code.



- 3) Once you are done writing code, press Ctrl+B, there will be 2 options C++ Single File and C++ Single File-Run. Select C++ Single File. This will build the file and also detect are their any error or not.

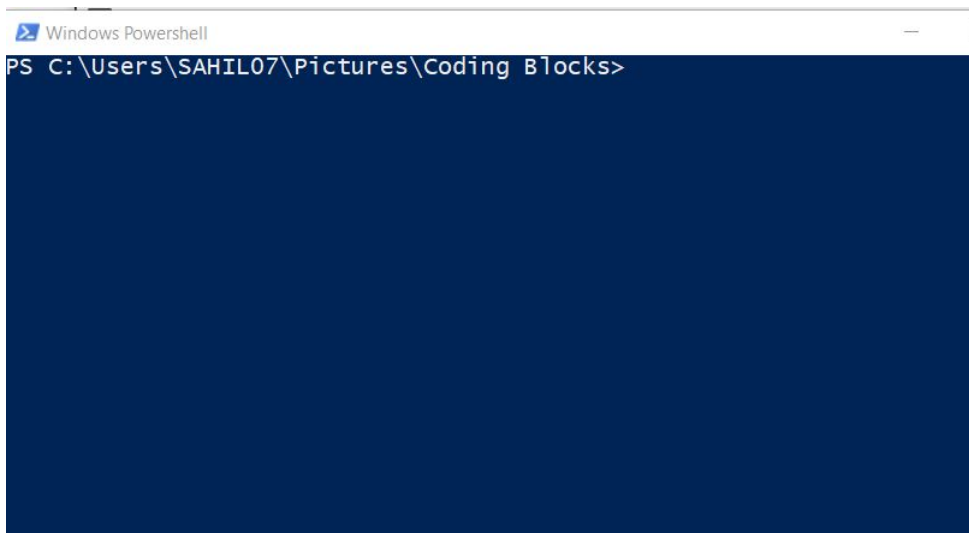


The screenshot shows the Sublime Text editor window titled "C:\Users\SAHIL07\Pictures\Coding Blocks\helloWorld.cpp - Sublime Text (UNREGISTER...". The menu bar includes File, Edit, Selection, Find, View, Goto, Tools, Project, Preferences, and Help. The editor tab is labeled "helloWorld.cpp". The code is as follows:

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main()
6 {
7 cout<<"Hello"<<endl;
8 return 0;
9 }
```

Below the editor, the output panel displays "[Finished in 0.9s]". The status bar at the bottom indicates "Line 9, Column 2", "Tab Size: 4", and "C++".

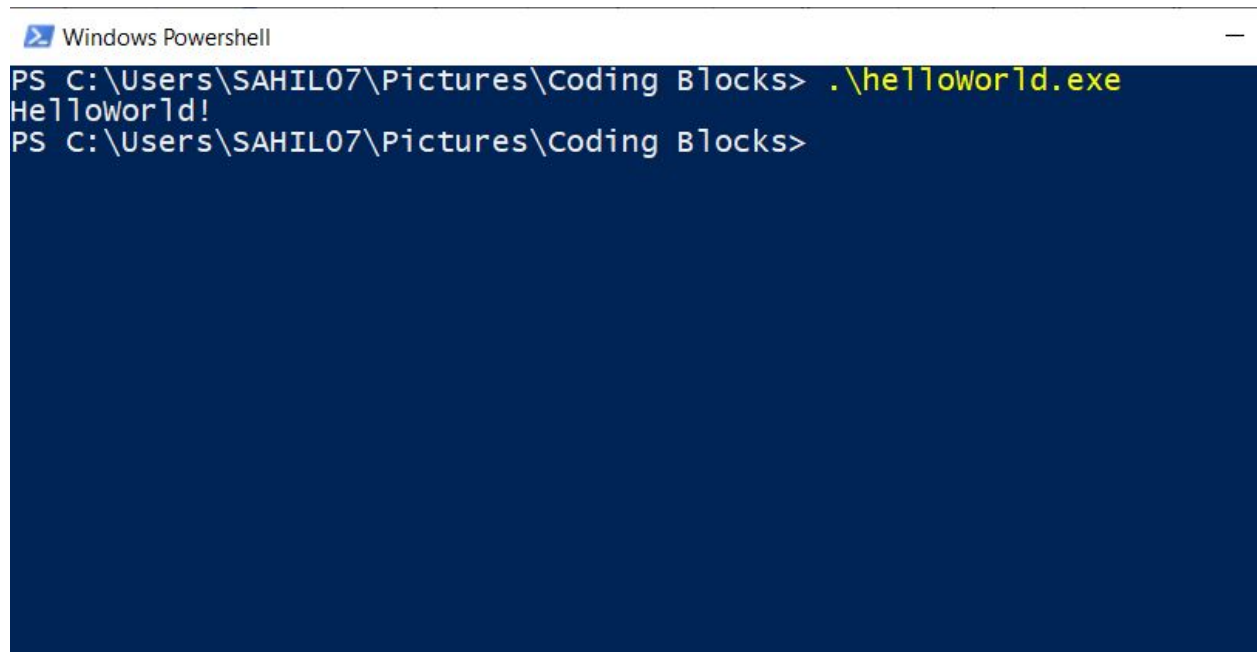
- 4) Now that your program is built, for it's execution open PowerShell using Ctrl+Shift+t.



The screenshot shows a Windows PowerShell window titled "Windows Powershell". The prompt is "PS C:\Users\SAHIL07\Pictures\Coding Blocks>" and the terminal area is currently empty.



5) For executing code type, `.\filename.exe` and press enter  
For example in our case, `.\helloWorld.exe`

A screenshot of a Windows PowerShell terminal window. The title bar at the top says "Windows PowerShell". The terminal has a dark blue background. The prompt is "PS C:\Users\SAHIL07\Pictures\Coding Blocks>". The user has entered the command ".\helloWorld.exe" in yellow text. The output "HelloWorld!" is displayed in white text on the next line. The prompt is repeated on the following line.

```
Windows PowerShell
PS C:\Users\SAHIL07\Pictures\Coding Blocks> .\helloWorld.exe
HelloWorld!
PS C:\Users\SAHIL07\Pictures\Coding Blocks>
```

## Mac OS

### Sublime Installation:

- 1) Go to [cb.lk/editor](http://cb.lk/editor) to download sublime text setup for windows and install it.

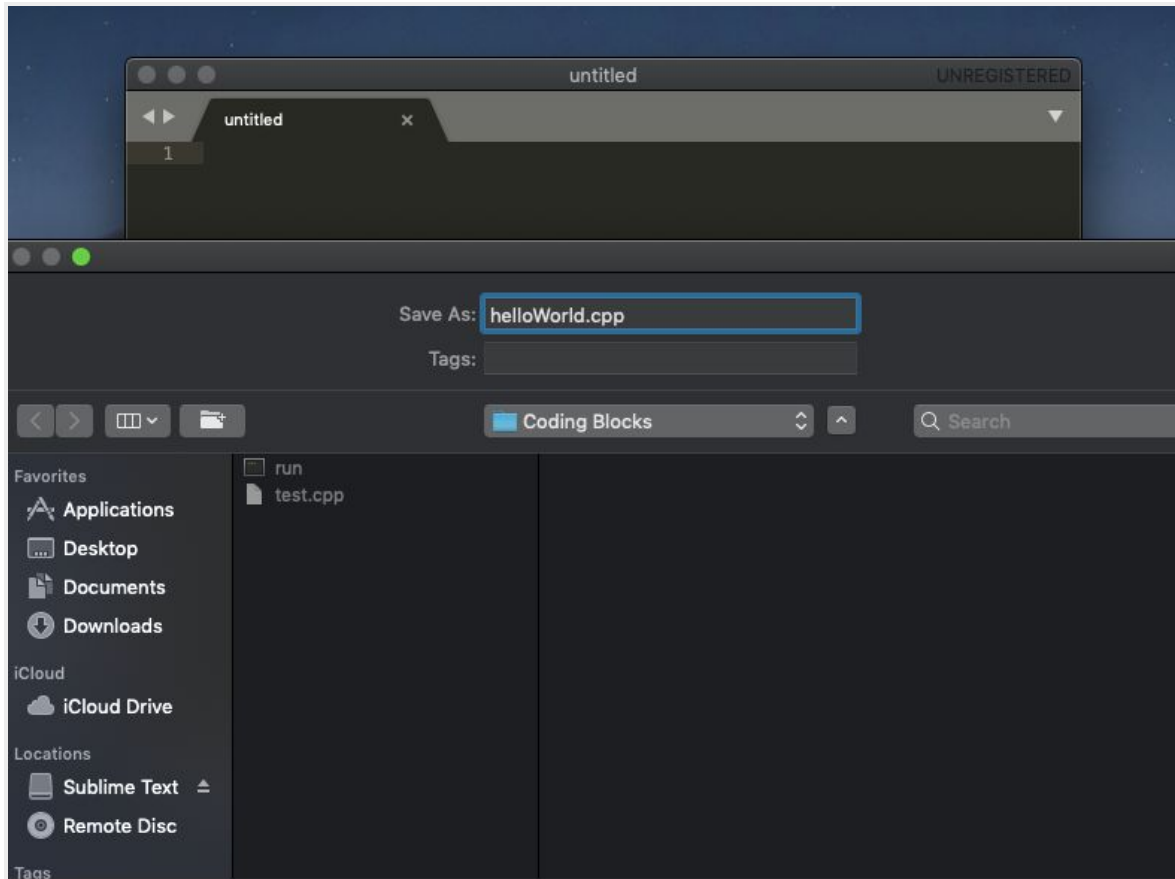
### g++ Installation:

- 1) Open terminal and run the command:  
`xcode-select --install`

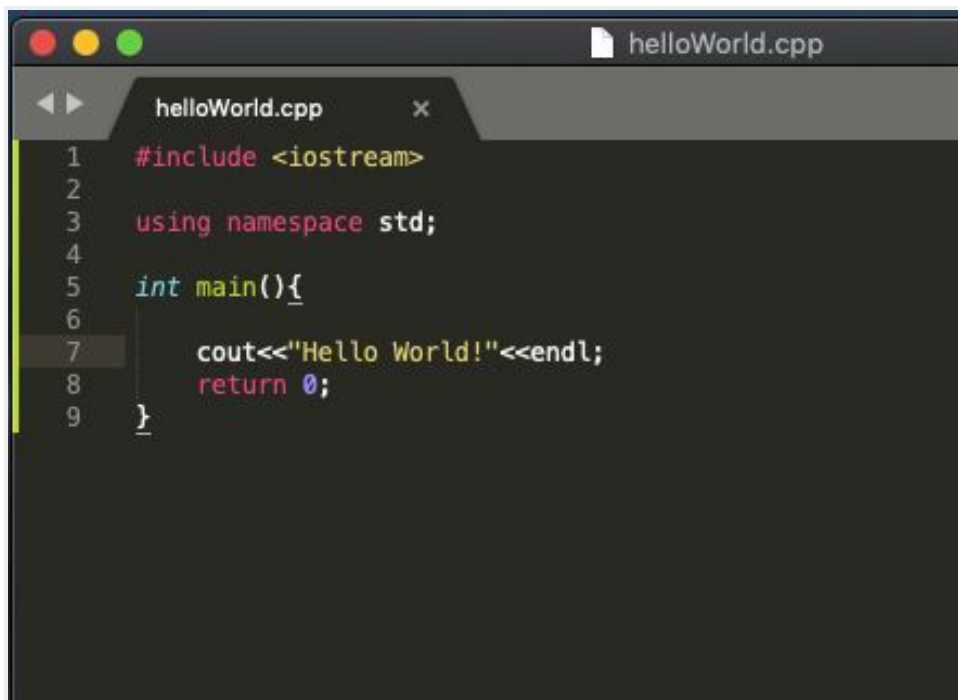
### Testing:

- 1) Open sublime text and save file with the format filename.cpp.

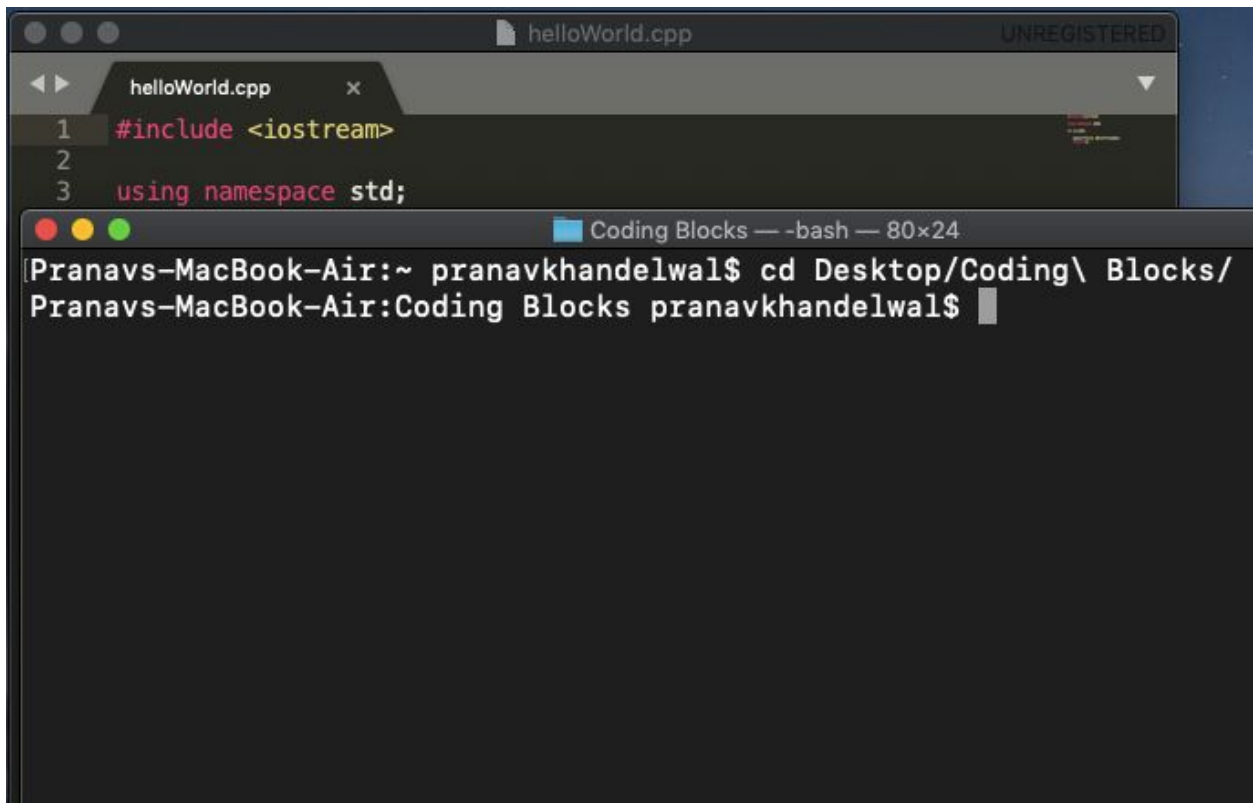




2) Now let's write a simple C++ code.



- 3) Open terminal and direct to the directory where the cpp file is located.



The screenshot shows a code editor window titled 'helloWorld.cpp' with the following content:

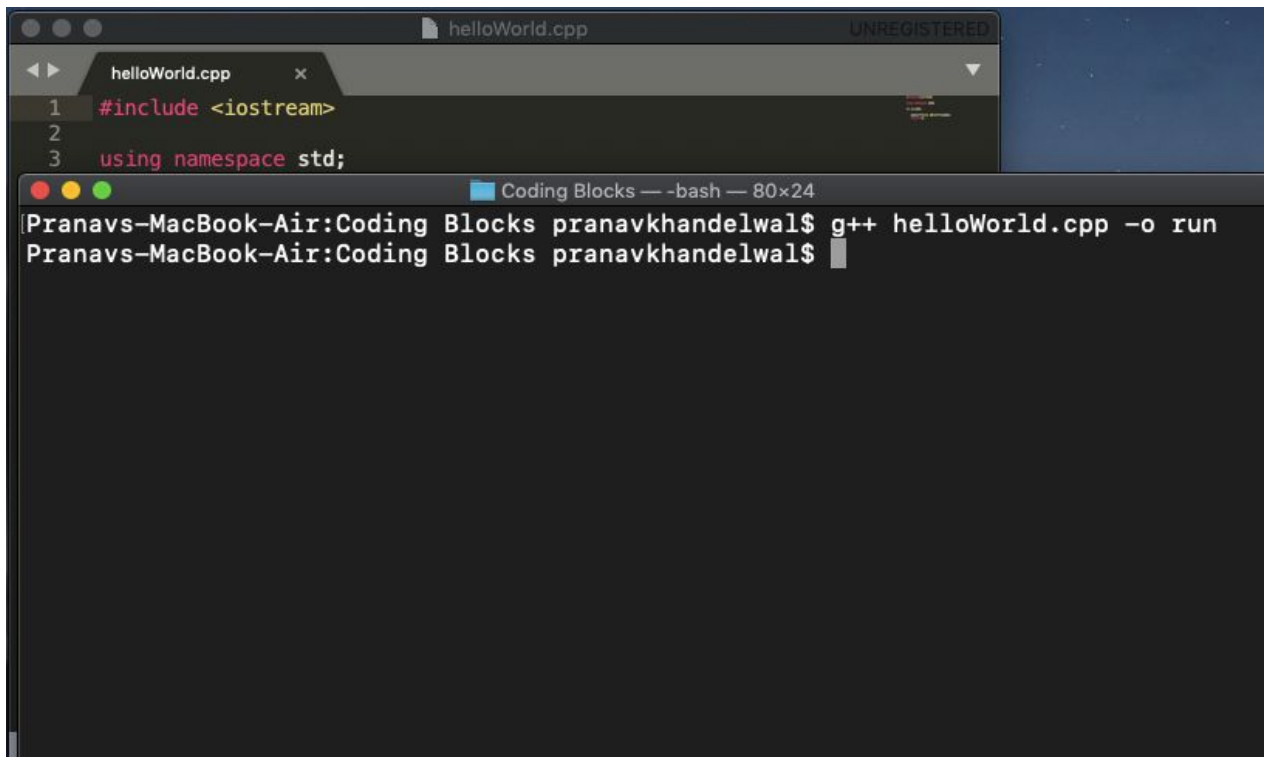
```
1 #include <iostream>
2
3 using namespace std;
```

Below the code editor is a terminal window titled 'Coding Blocks — -bash — 80x24'. The terminal shows the following commands and output:

```
Pranavs-MacBook-Air:~ pranavkhandelwal$ cd Desktop/Coding\ Blocks/
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$
```

- 4) Now to build the source code, type this command in the terminal

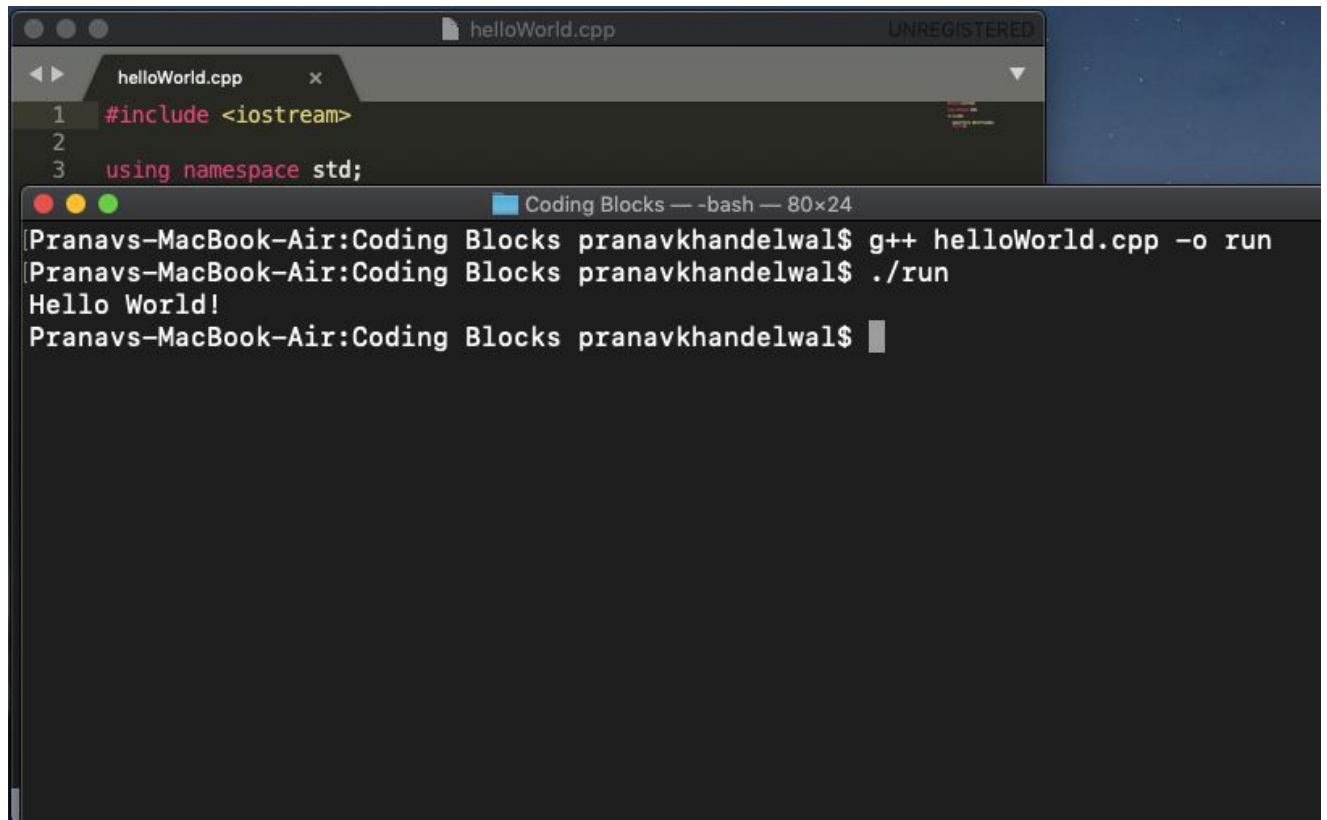
```
g++ filename.cpp -o run
```



The screenshot shows the same code editor window as before. The terminal window now shows the compilation command being executed:

```
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$ g++ helloWorld.cpp -o run
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$
```

5) Now to execute the file, type the command : `./run`



The image shows a screenshot of a code editor window and a terminal window. The code editor window, titled 'helloWorld.cpp', contains the following code:

```
1 #include <iostream>
2
3 using namespace std;
```

The terminal window, titled 'Coding Blocks -- -bash -- 80x24', shows the following commands and output:

```
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$ g++ helloWorld.cpp -o run
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$./run
Hello World!
Pranavs-MacBook-Air:Coding Blocks pranavkhandelwal$
```

That's all for sublime text and g++.

If anyone wants to use some other IDEs then Code::Blocks, Clion and Atom.

Atom is quite similar to Sublime Text. In my experience Clion is really beneficial for beginners but it's paid, you can apply for 1 year student subscription which is completely free. :)



Happy Coding!

