Techimax

Fundamentals of Programming in C++

Introduction

Compiled Language

- Requires Compilers (not interpreters)
- Entire code compiled or converted to machine understandable code (unlike interpreter where done line by line)
- Extension of C
- Latest version : C++17

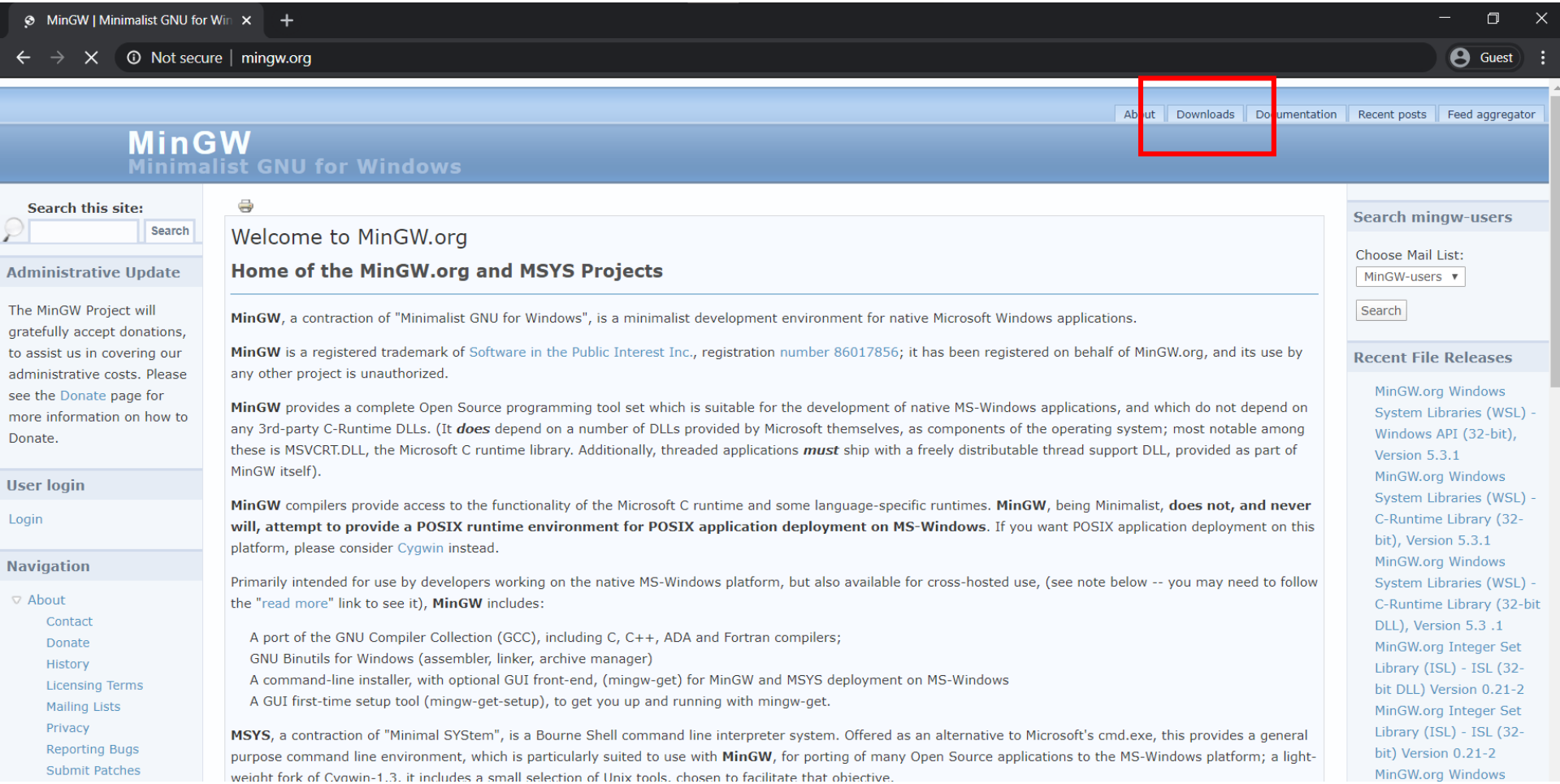
Complier we are going to use :
GCC (GNU Complier Collection)

For Windows
MinGW
(Minimalist GNU
for Windows)

http://www.mingw.org/

Download Compiler

Visit : http://www.mingw.org/



Download Compiler

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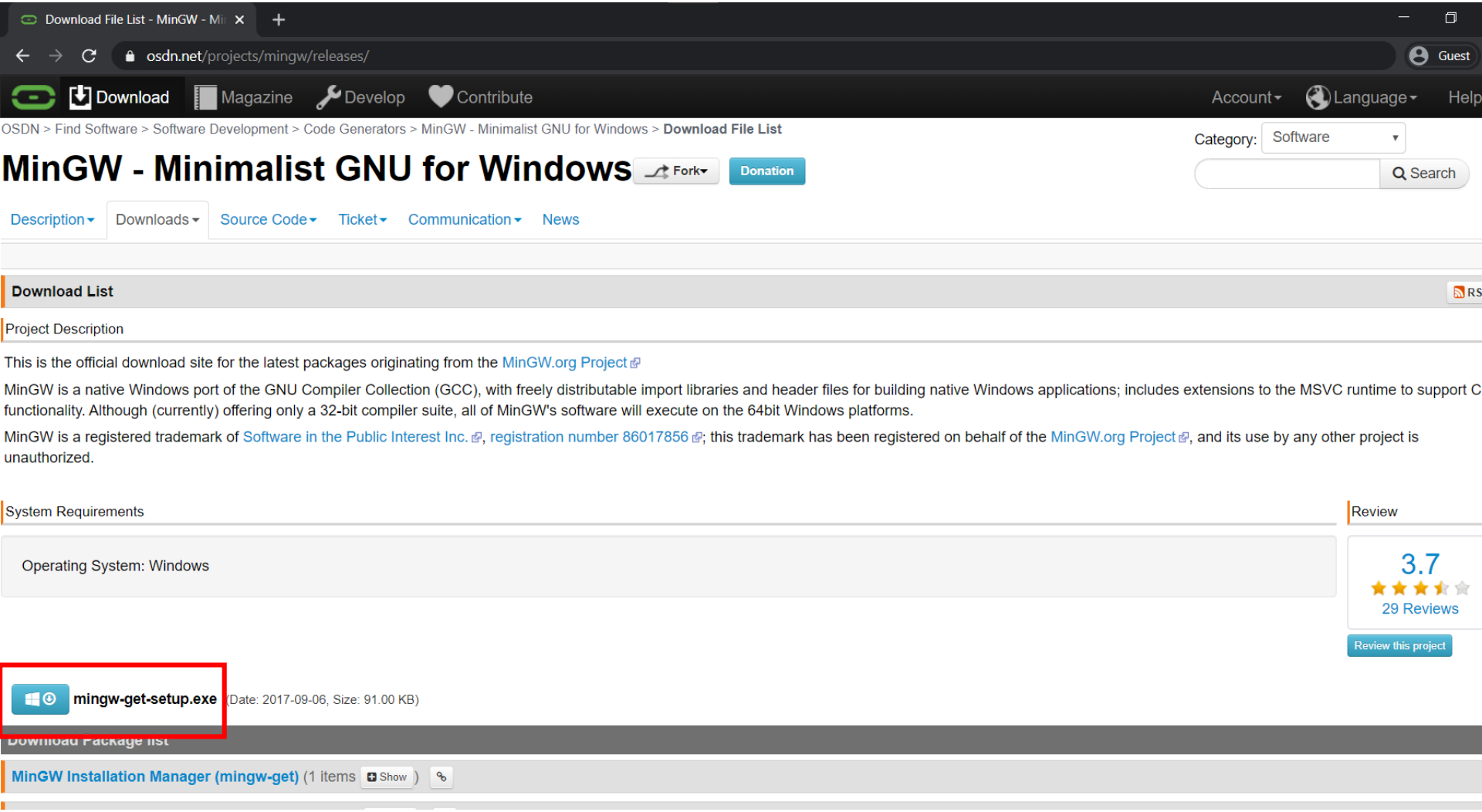
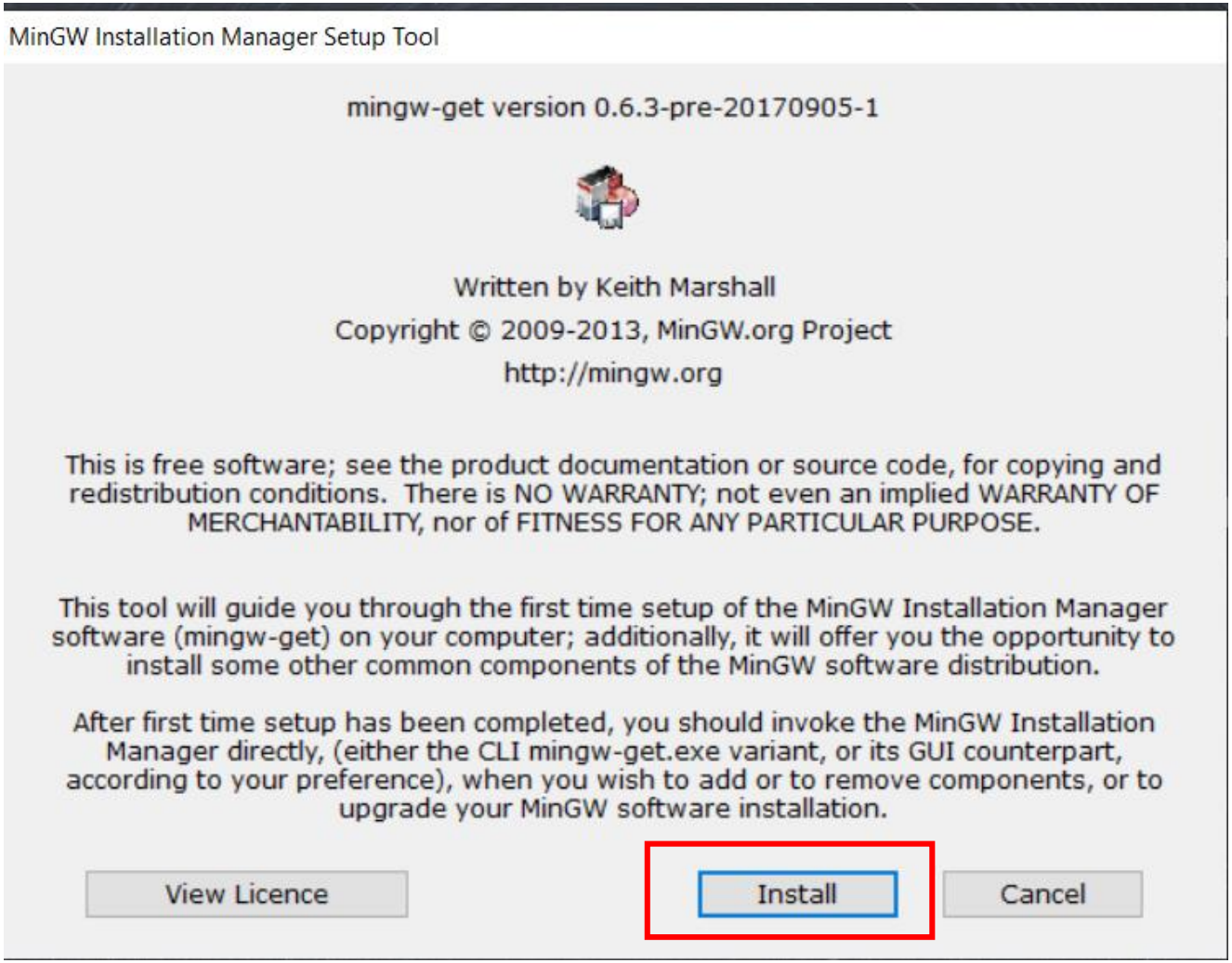
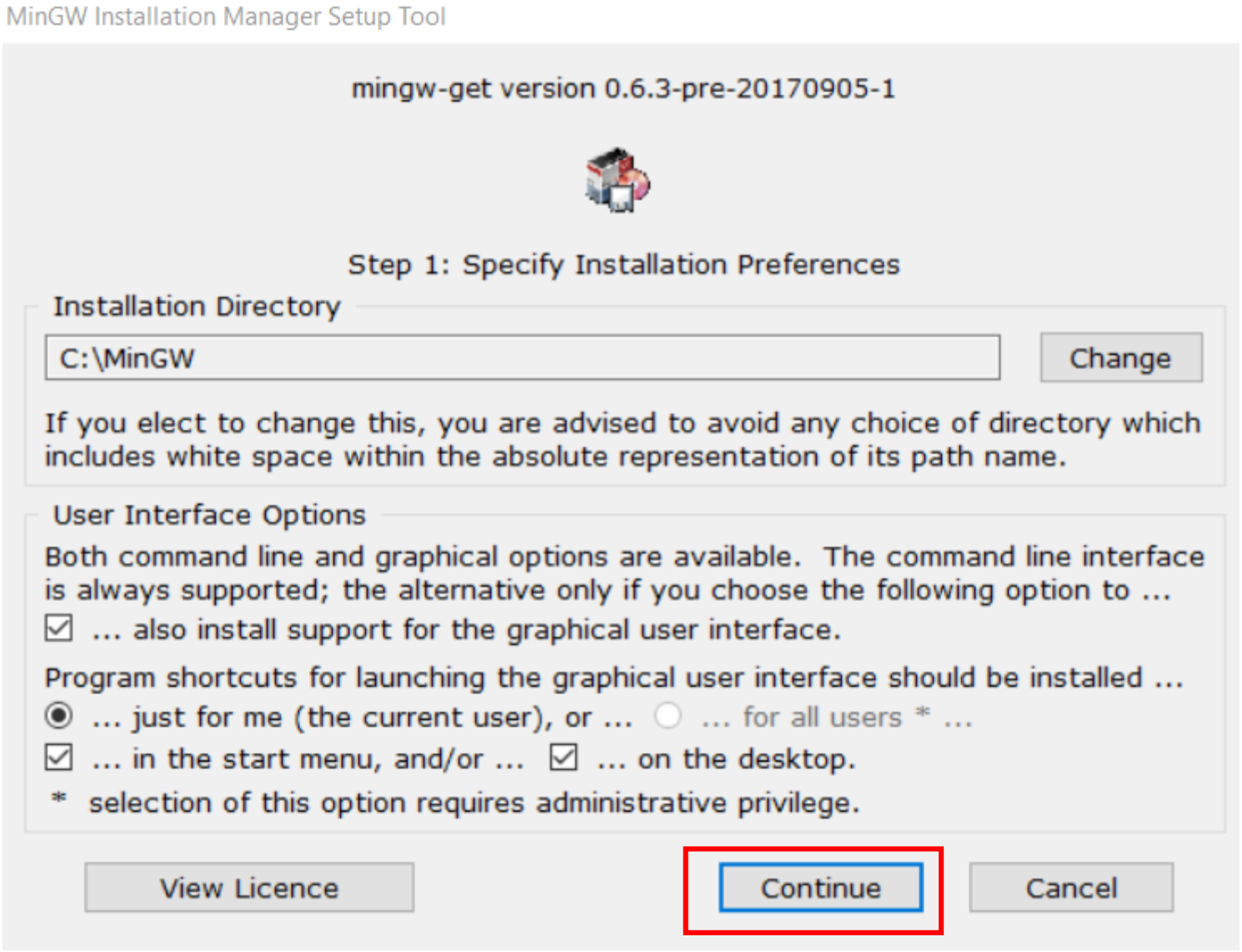


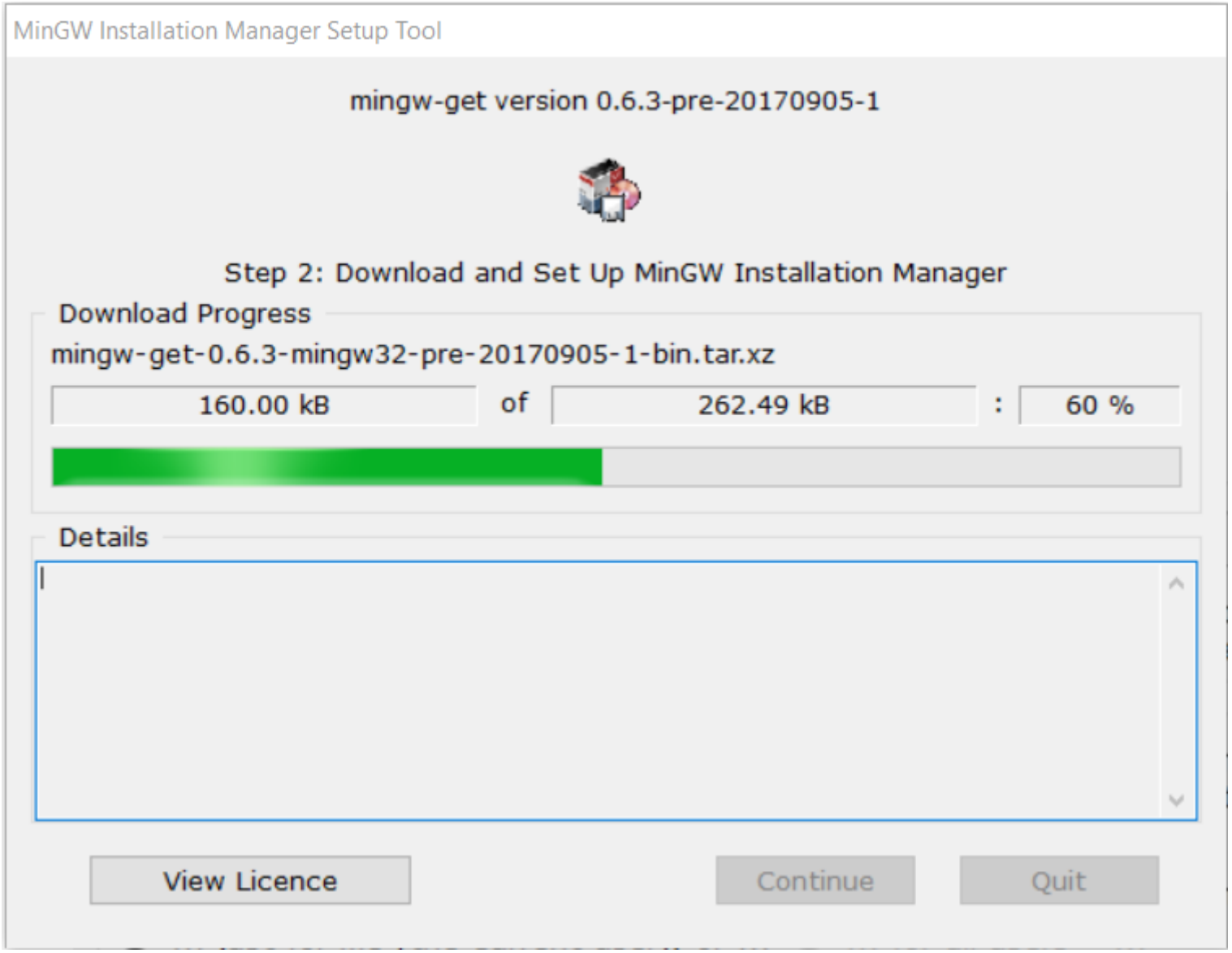
Install Compiler



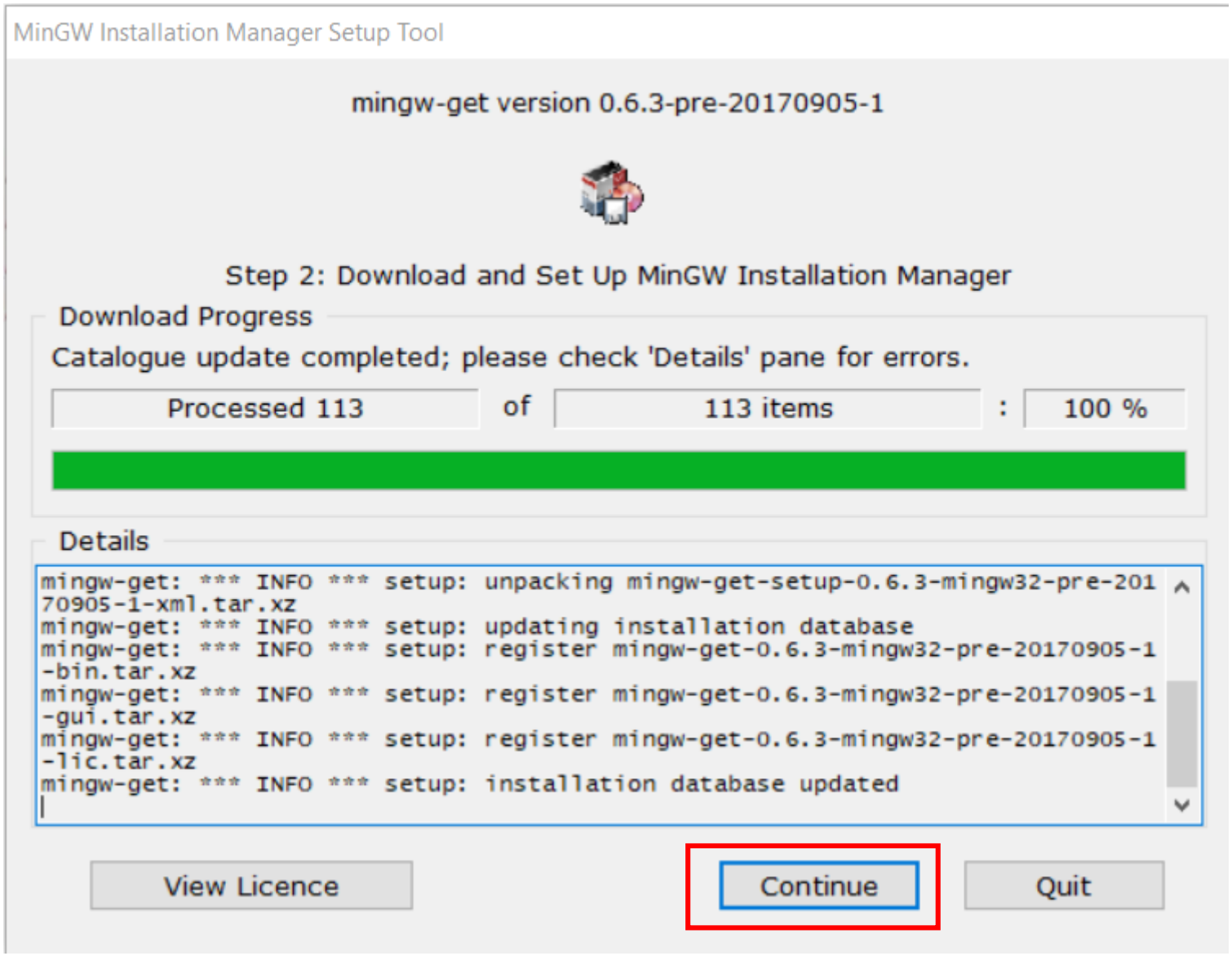
Install Compiler



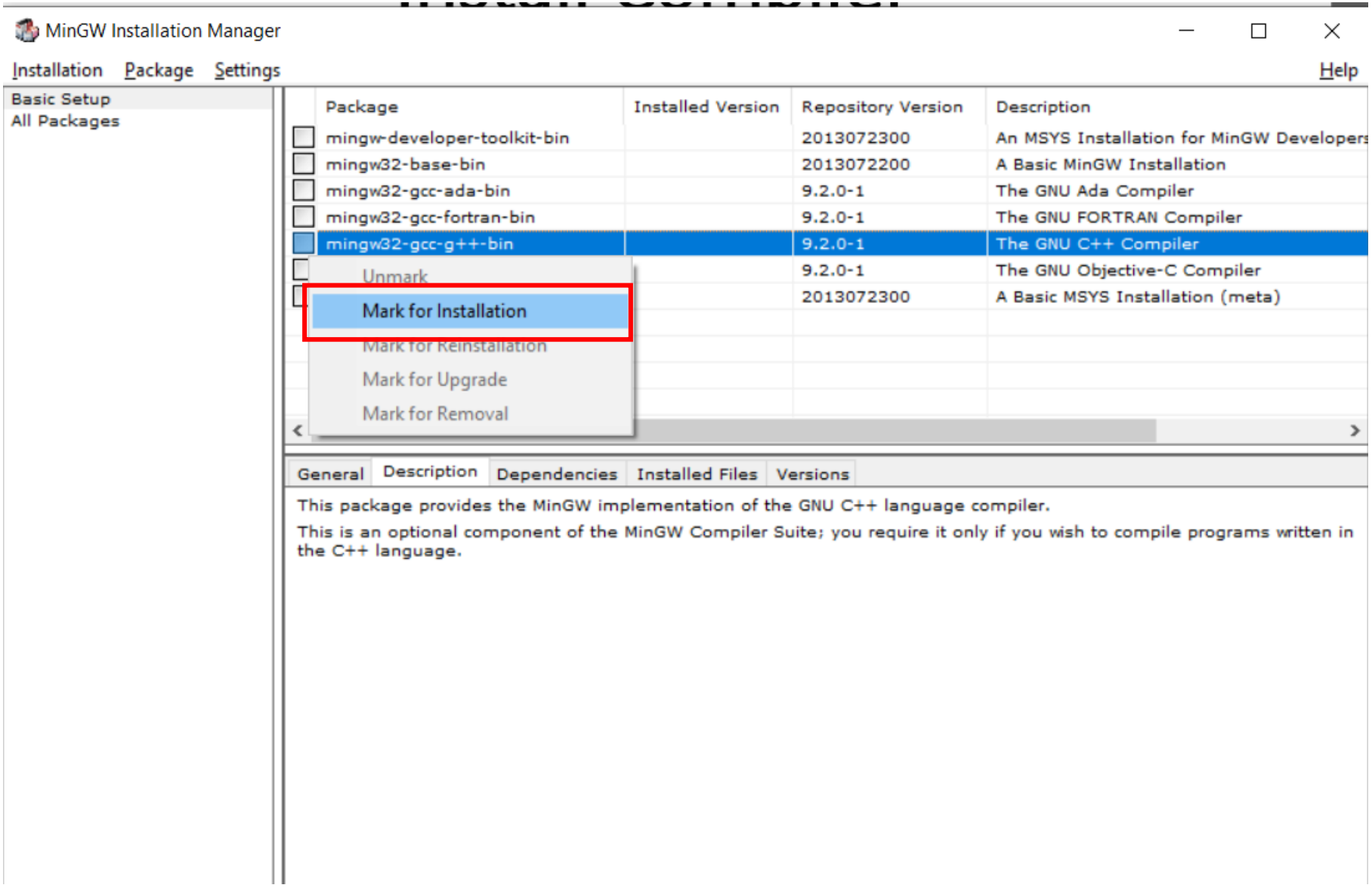
Install Compiler



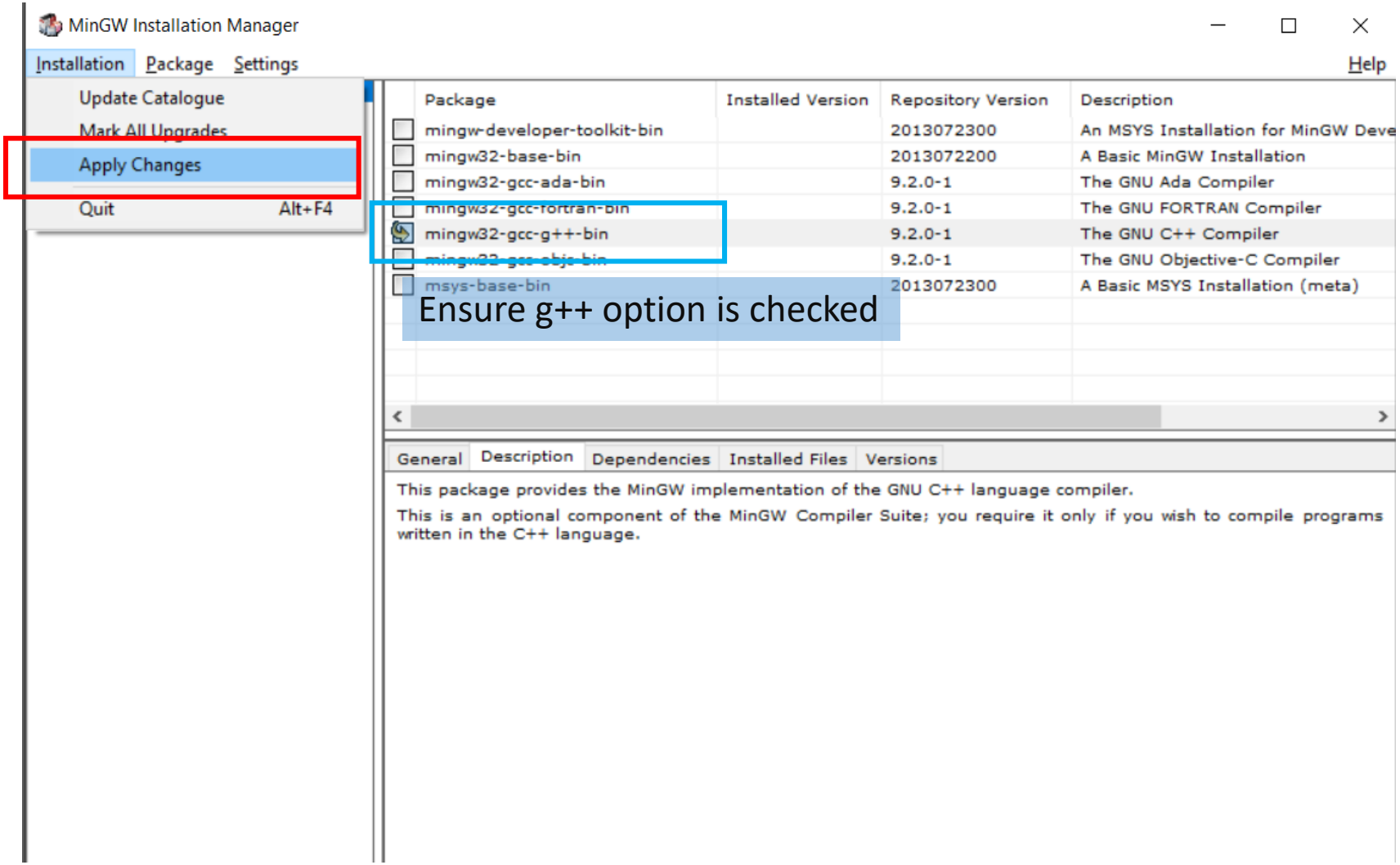
Install Compiler



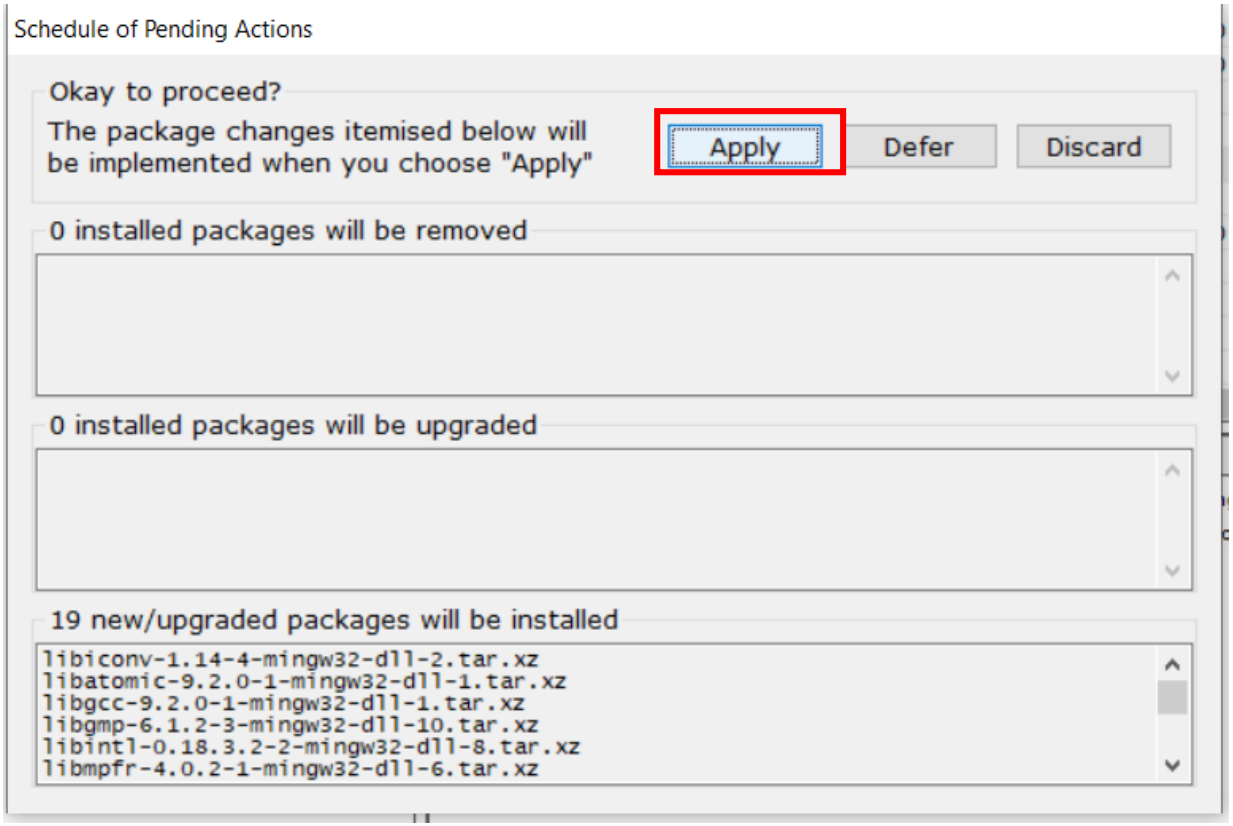
Install Compiler



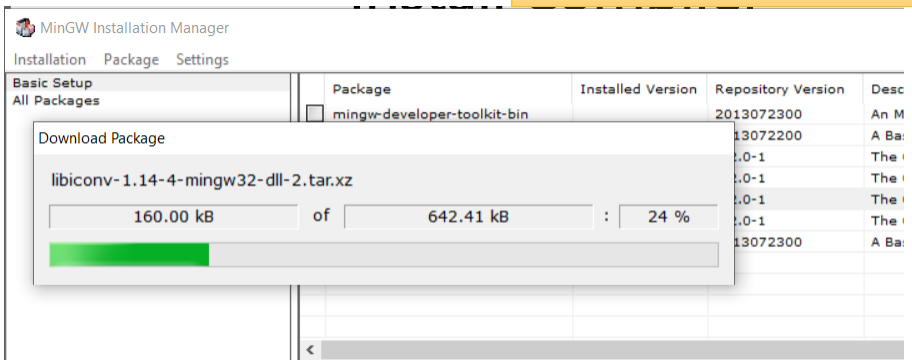
Install Compiler



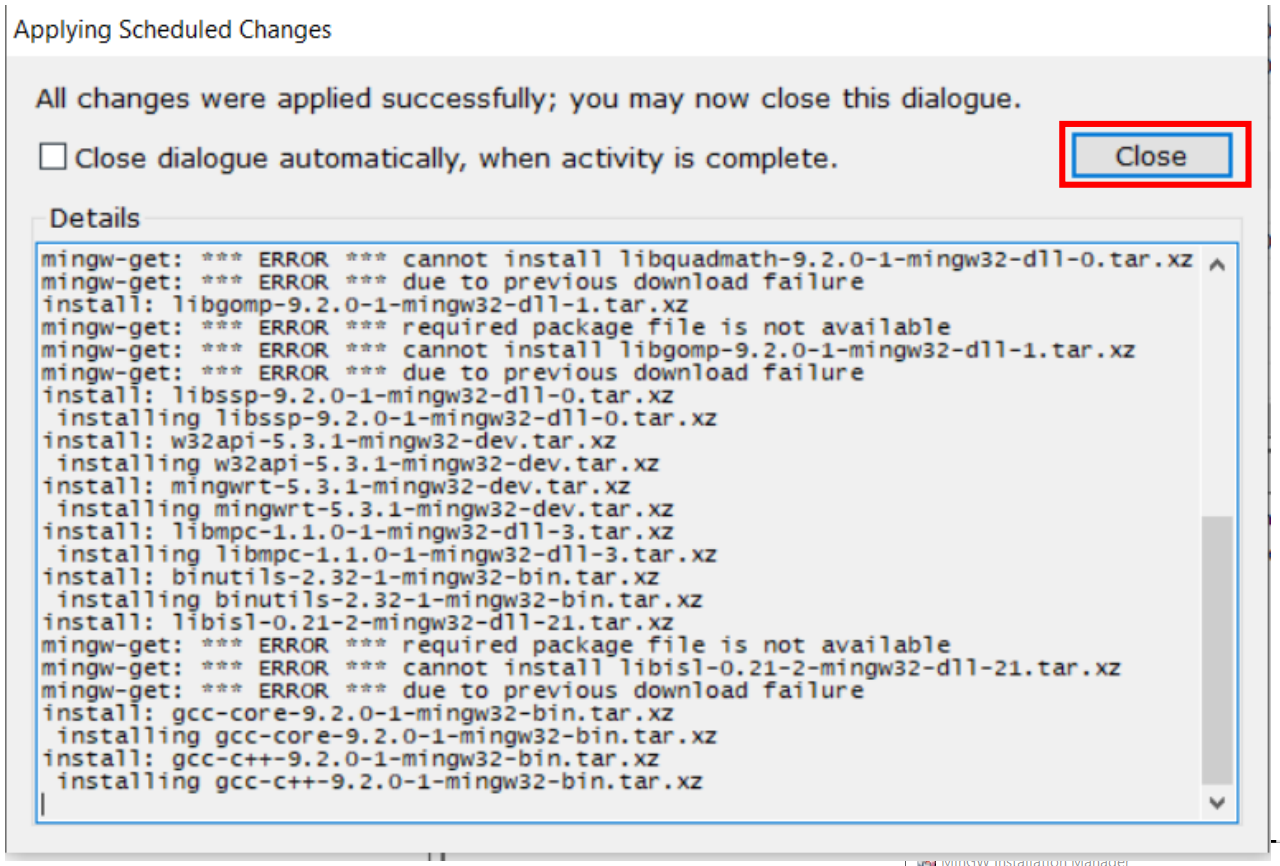
Install Compiler



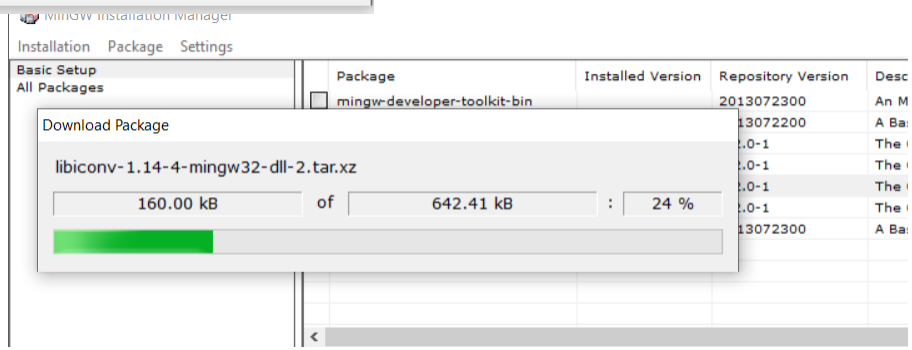
Installation begins



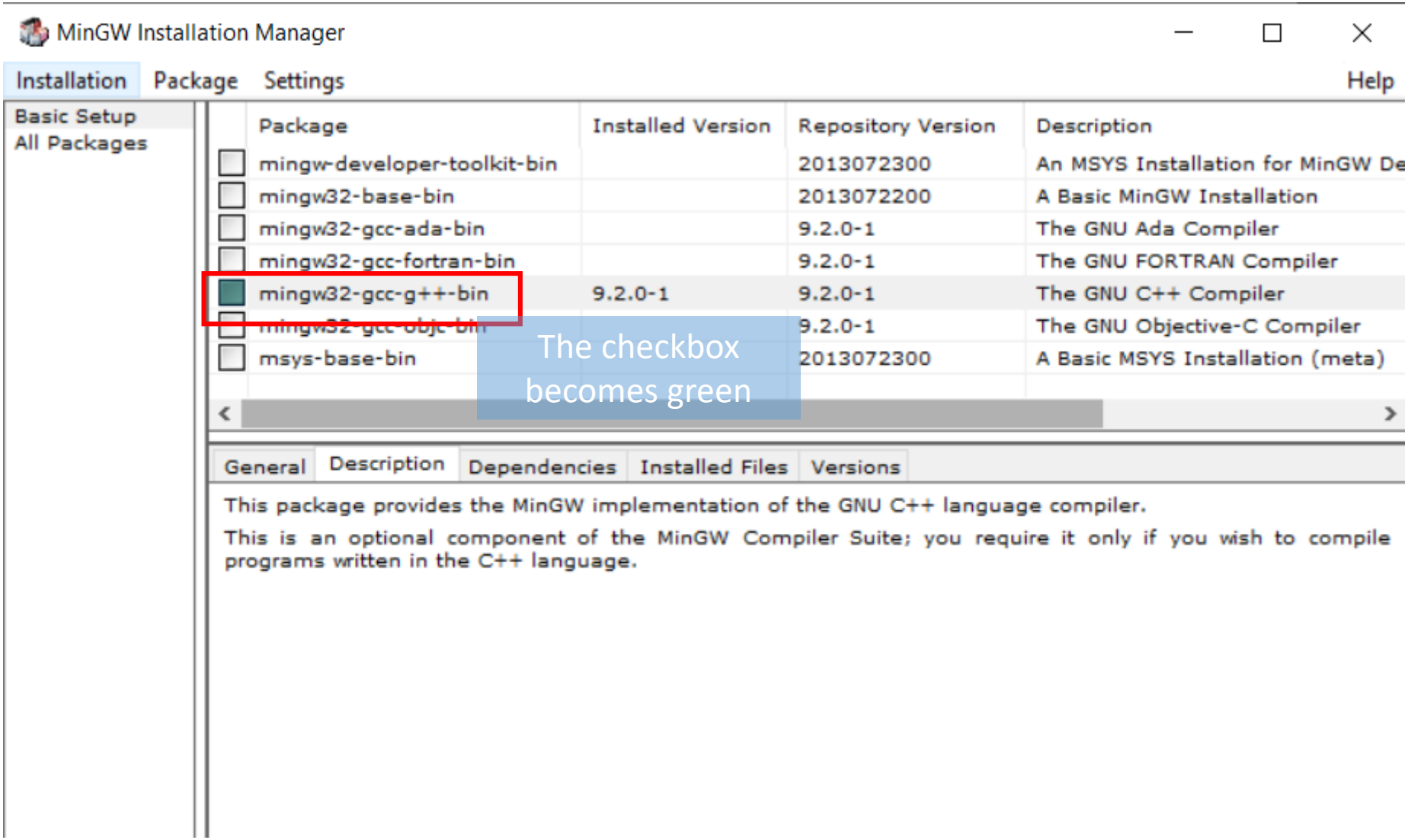
Install Compiler



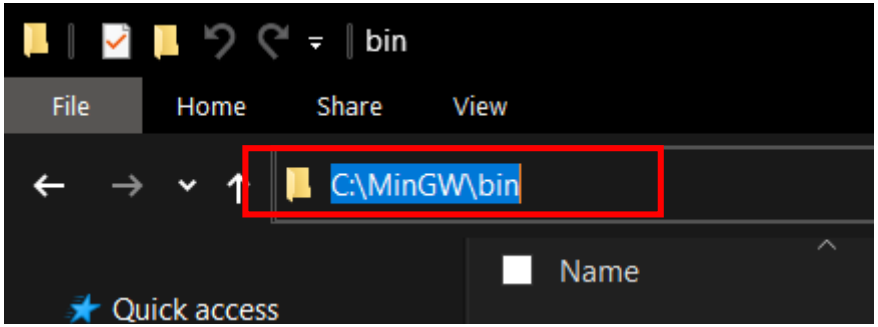
Installation begins



Install Compiler

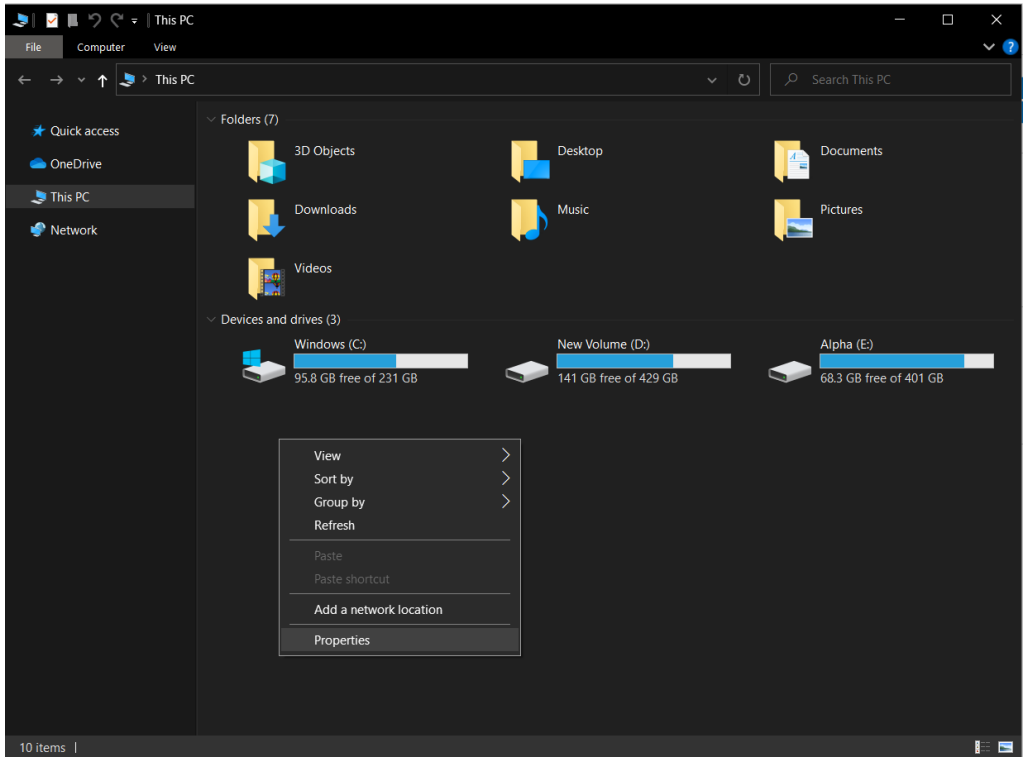


Add to PATH

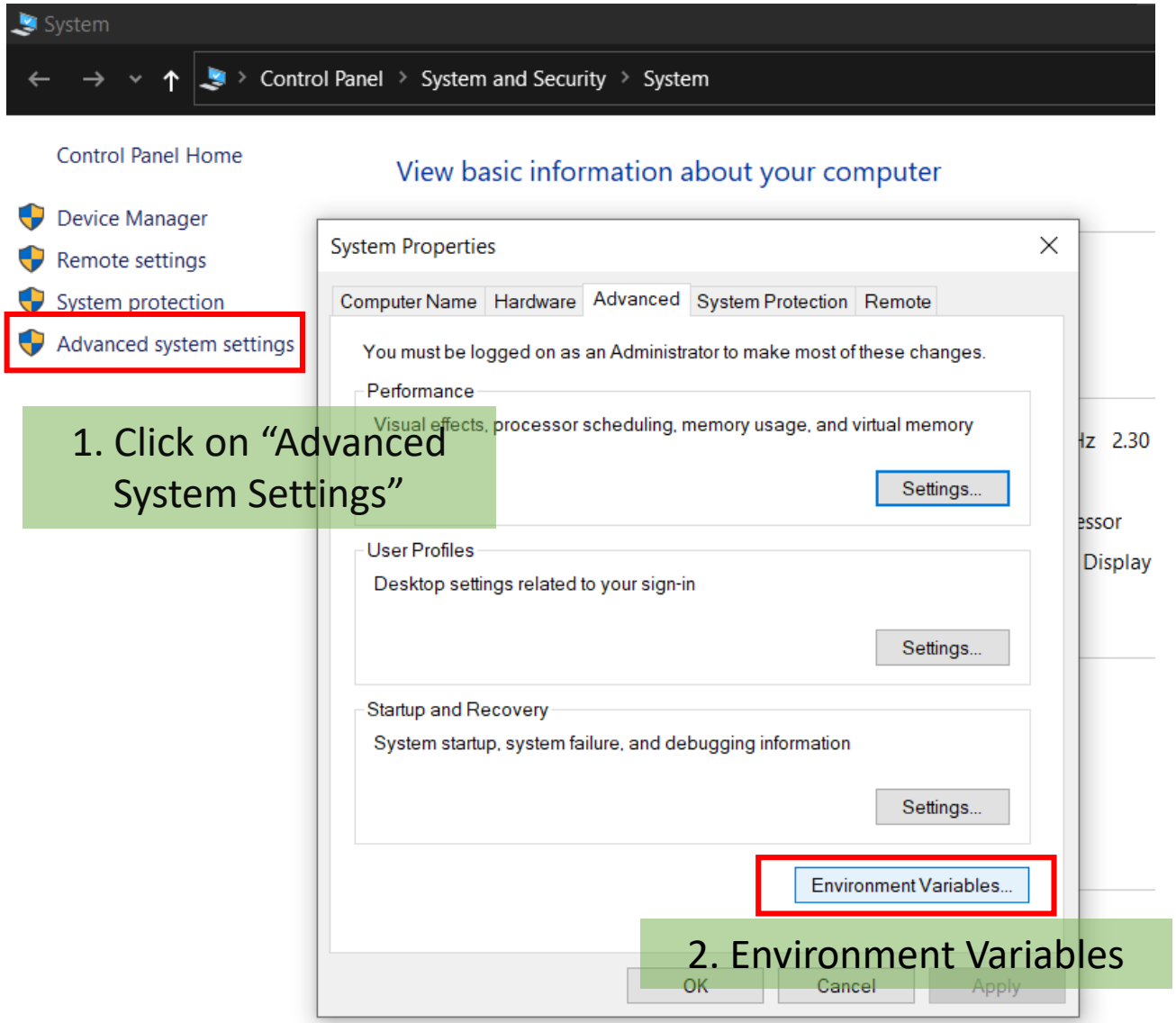


- Open the file explorer
- Navigate to `C:\MinGW\bin`
- And copy the path

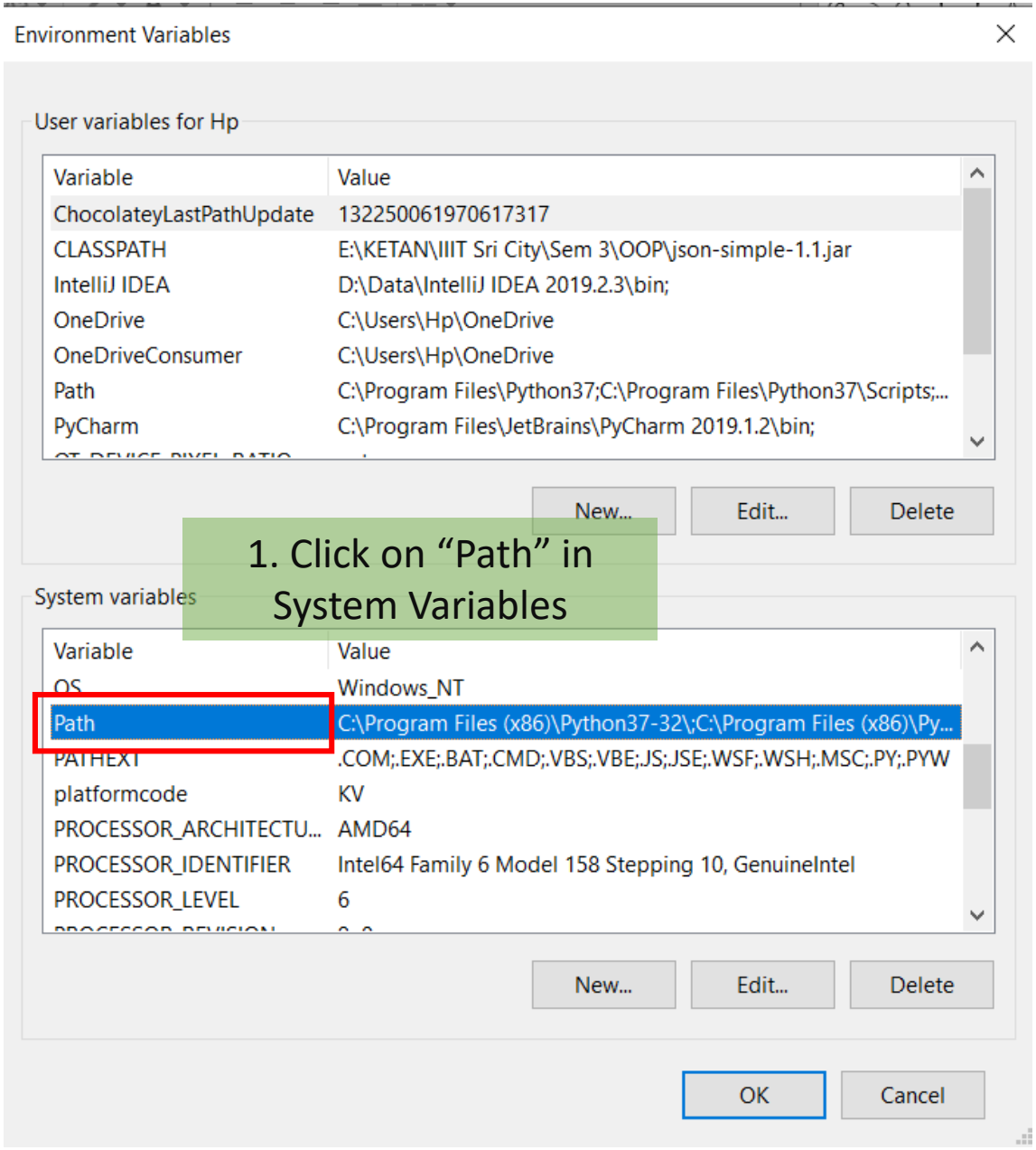
- Open “This PC”
- Right click -> Properties



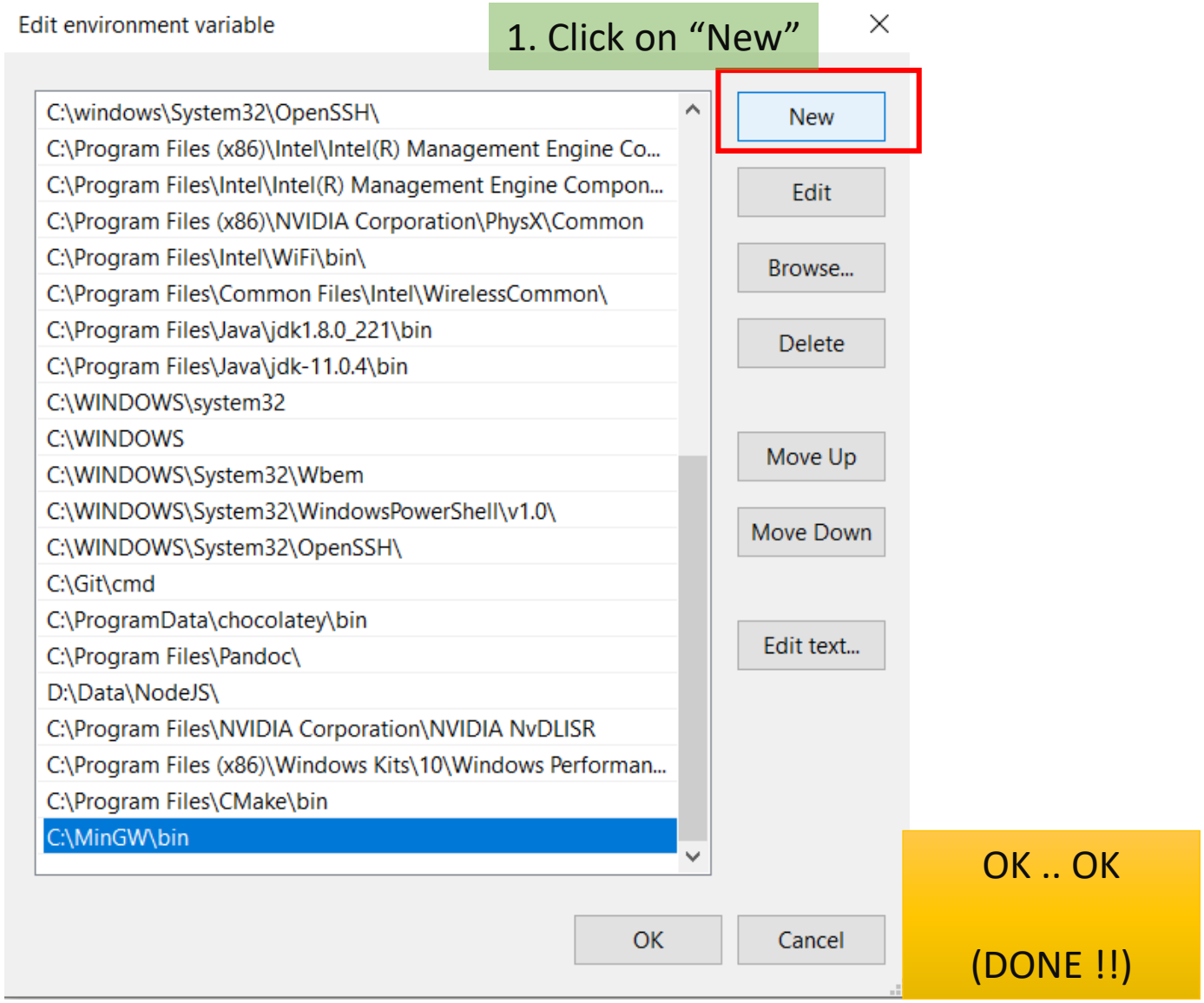
Add to PATH


System
Control Panel
System and Security
System
Control Panel Home
View basic information about your computer
Device Manager
Remote settings
System protection
Advanced system settings
1. Click on “Advanced System Settings”
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
2. Environment Variables
OK
Cancel
Apply

Add to PATH

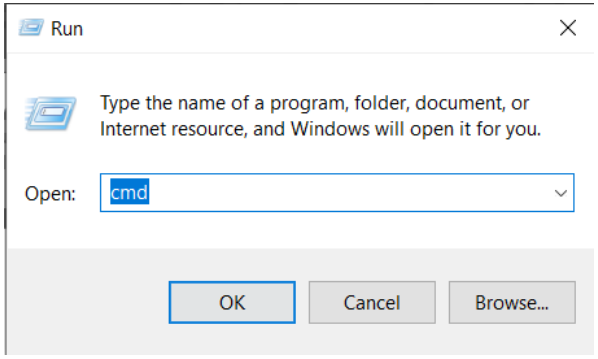

Environment Variables
User variables for Hp
Variable
Value
ChocolateyLastPathUpdate
132250061970617317
CLASSPATH
E:\KETAN\IIIT Sri City\Sem 3\OOP\json-simple-1.1.jar
IntelliJ IDEA
D:\Data\IntelliJ IDEA 2019.2.3\bin;
OneDrive
C:\Users\Hp\OneDrive
OneDriveConsumer
C:\Users\Hp\OneDrive
Path
C:\Program Files\Python37;C:\Program Files\Python37\Scripts;...
PyCharm
C:\Program Files\JetBrains\PyCharm 2019.1.2\bin;
New...
Edit...
Delete
1. Click on “Path” in System Variables
System variables
Variable
Value
OS
Windows_NT
Path
C:\Program Files (x86)\Python37-32\;C:\Program Files (x86)\Py...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW
platformcode
KV
PROCESSOR_ARCHITECTU...
AMD64
PROCESSOR_IDENTIFIER
Intel64 Family 6 Model 158 Stepping 10, GenuineIntel
PROCESSOR_LEVEL
6
New...
Edit...
Delete
OK
Cancel

Add to PATH


Edit environment variable
1. Click on “New”
C:\windows\System32\OpenSSH\
C:\Program Files (x86)\Intel\Intel(R) Management Engine Co...
C:\Program Files\Intel\Intel(R) Management Engine Compon...
C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common
C:\Program Files\Intel\WiFi\bin\
C:\Program Files\Common Files\Intel\WirelessCommon\
C:\Program Files\Java\jdk1.8.0_221\bin
C:\Program Files\Java\jdk-11.0.4\bin
C:\WINDOWS\system32
C:\WINDOWS
C:\WINDOWS\System32\Wbem
C:\WINDOWS\System32\WindowsPowerShell\v1.0\
C:\WINDOWS\System32\OpenSSH\
C:\Git\cmd
C:\ProgramData\chocolatey\bin
C:\Program Files\Pandoc\
D:\Data\NodeJS\
C:\Program Files\NVIDIA Corporation\NVIDIA NvDLISR
C:\Program Files (x86)\Windows Kits\10\Windows Performan...
C:\Program Files\CMake\bin
C:\MinGW\bin
New
Edit
Browse...
Delete
Move Up
Move Down
Edit text...
OK
Cancel
OK .. OK
(DONE !!)

Confirm Installation

Open CMD
- Win+R
- Type “cmd”
- OK




```
gcc --version
```

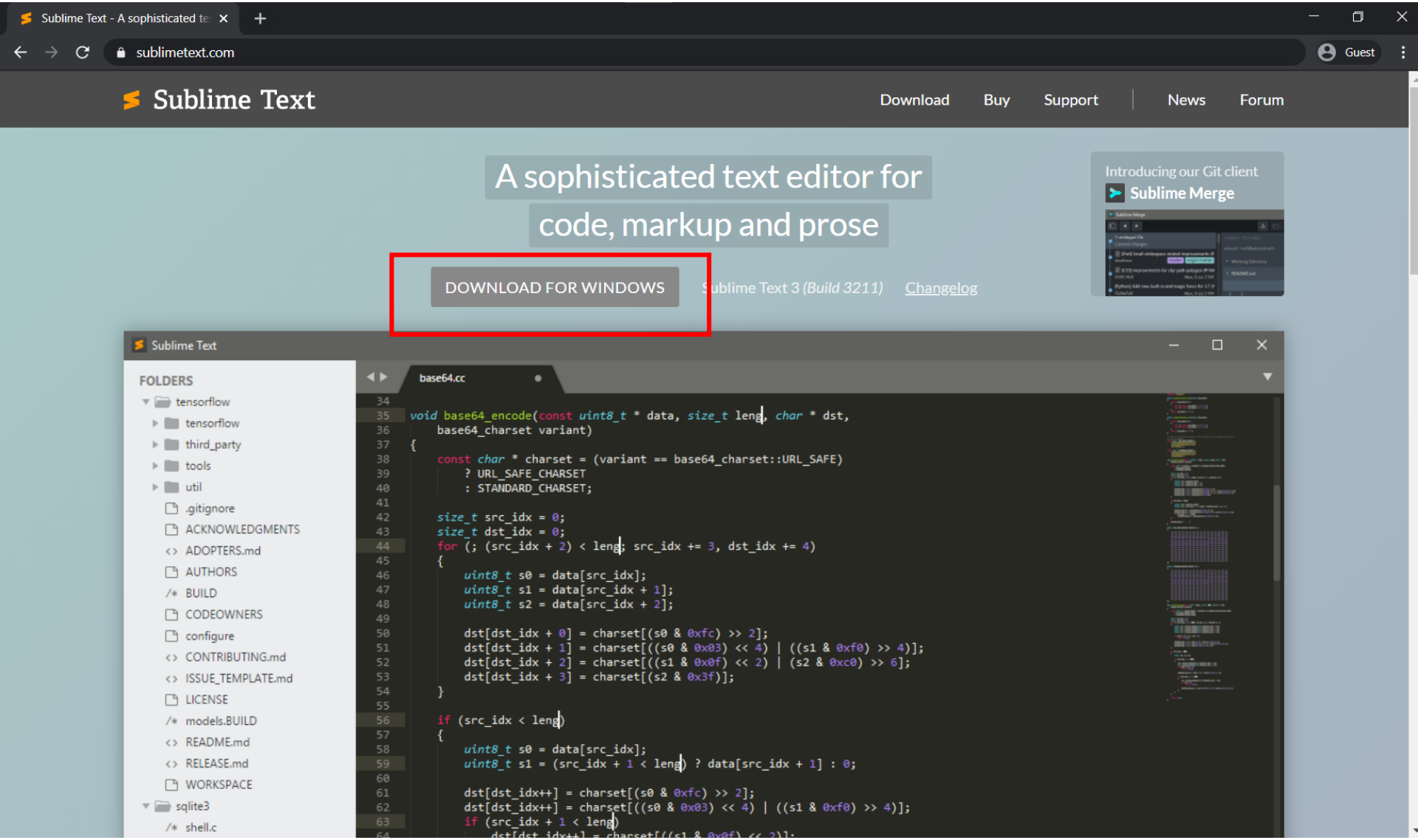
```
C:\Users\Hp>g++ --version
g++ (MinGW.org GCC-8.2.0-3) 8.2.0
Copyright (C) 2018 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

Install Text Editor

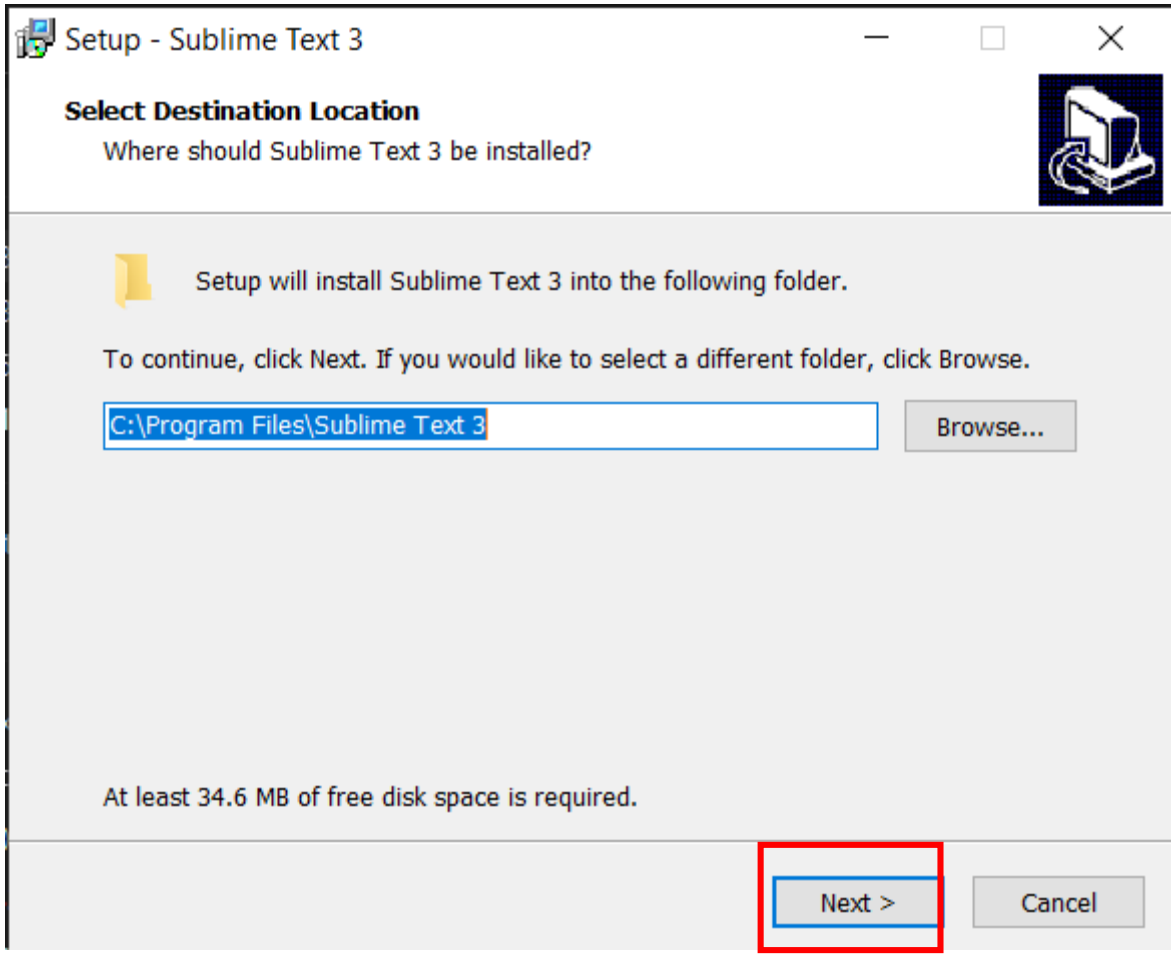
https://www.sublimetext.com/

Install Text Editor

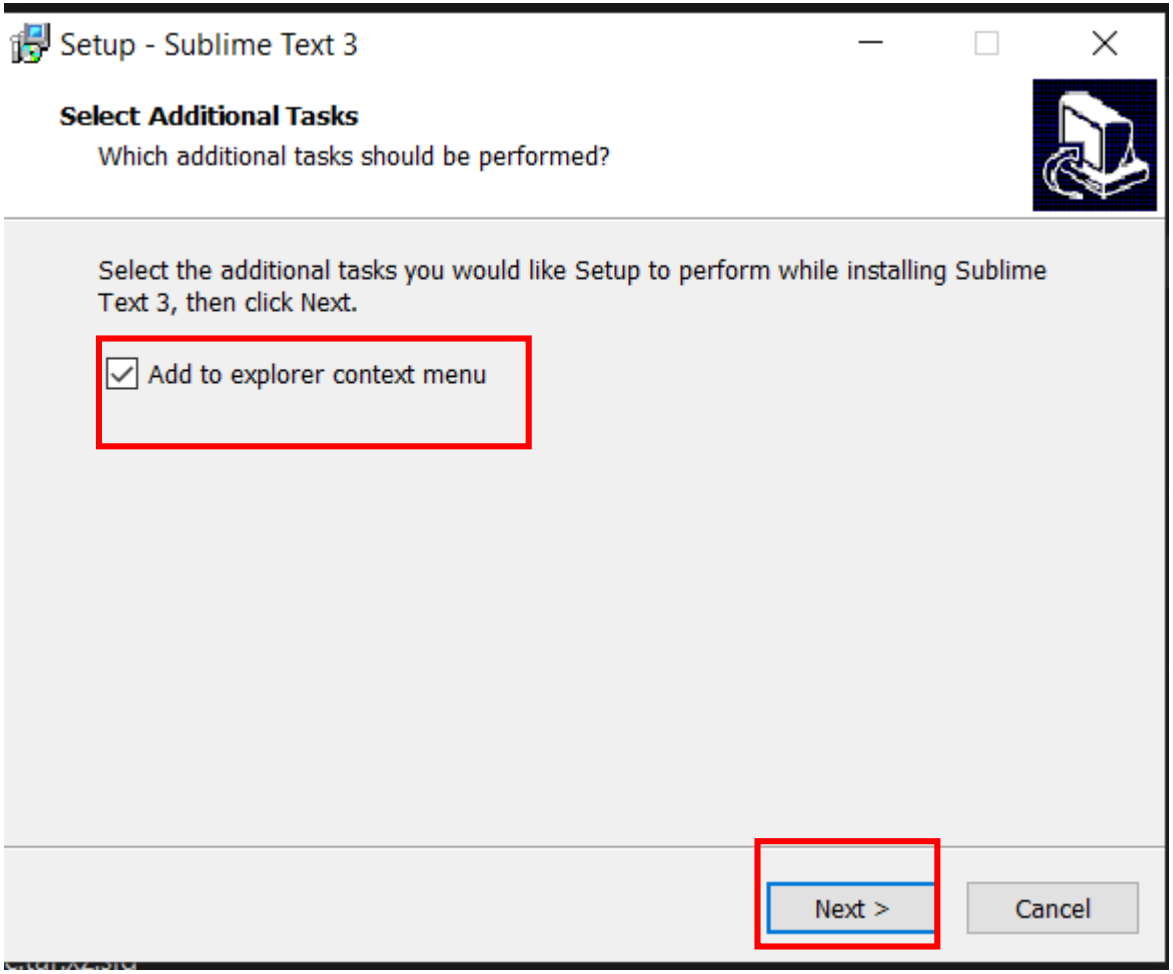
https://www.sublimetext.com/



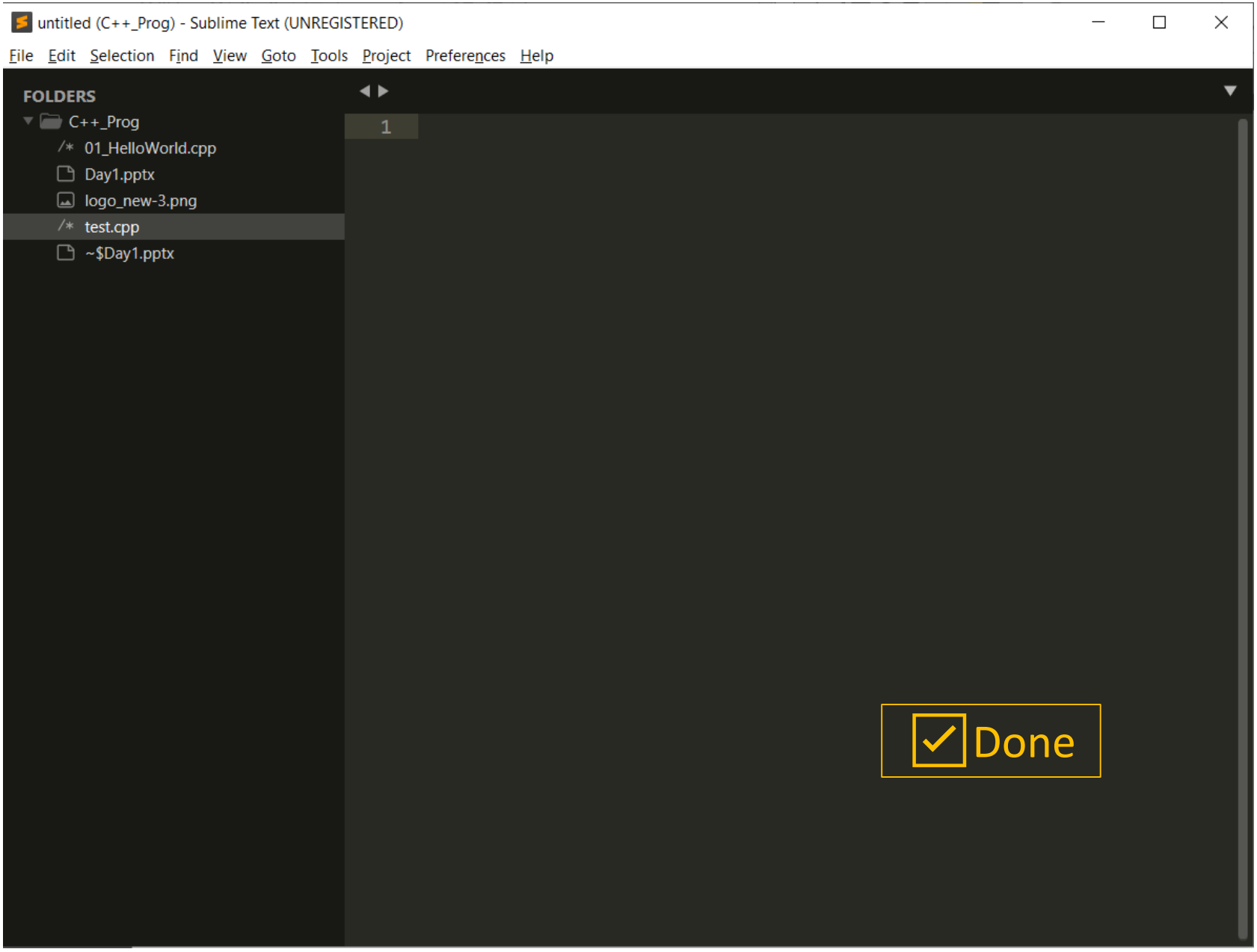
Install Text Editor



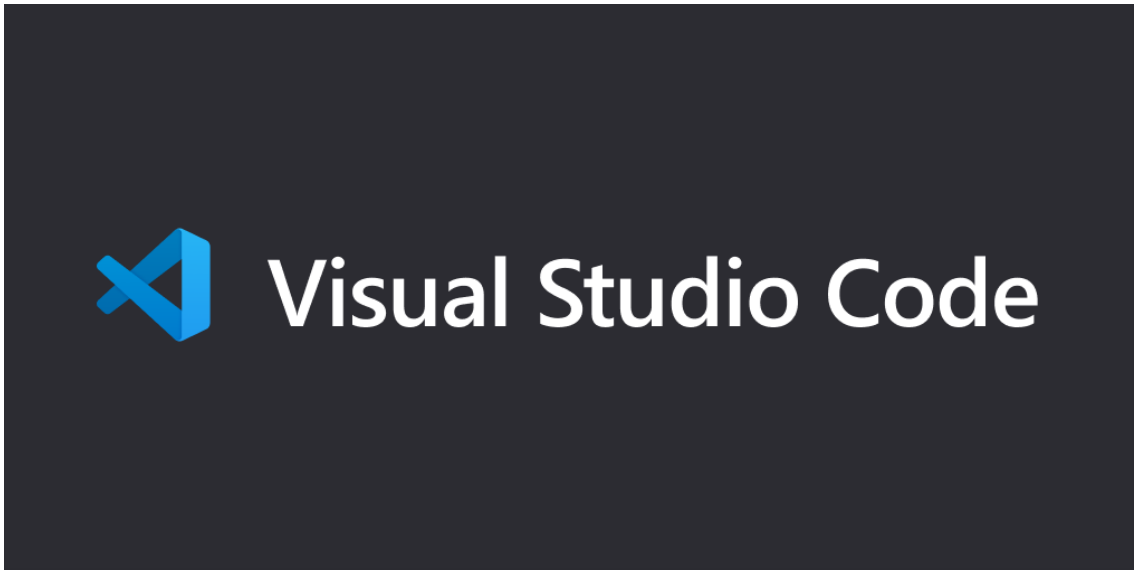
Install Text Editor



Then Click Install


untitled (C++_Prog) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
FOLDERS
C++_Prog
01_HelloWorld.cpp
Day1.pptx
logo_new-3.png
test.cpp
~$Day1.pptx
1
Done

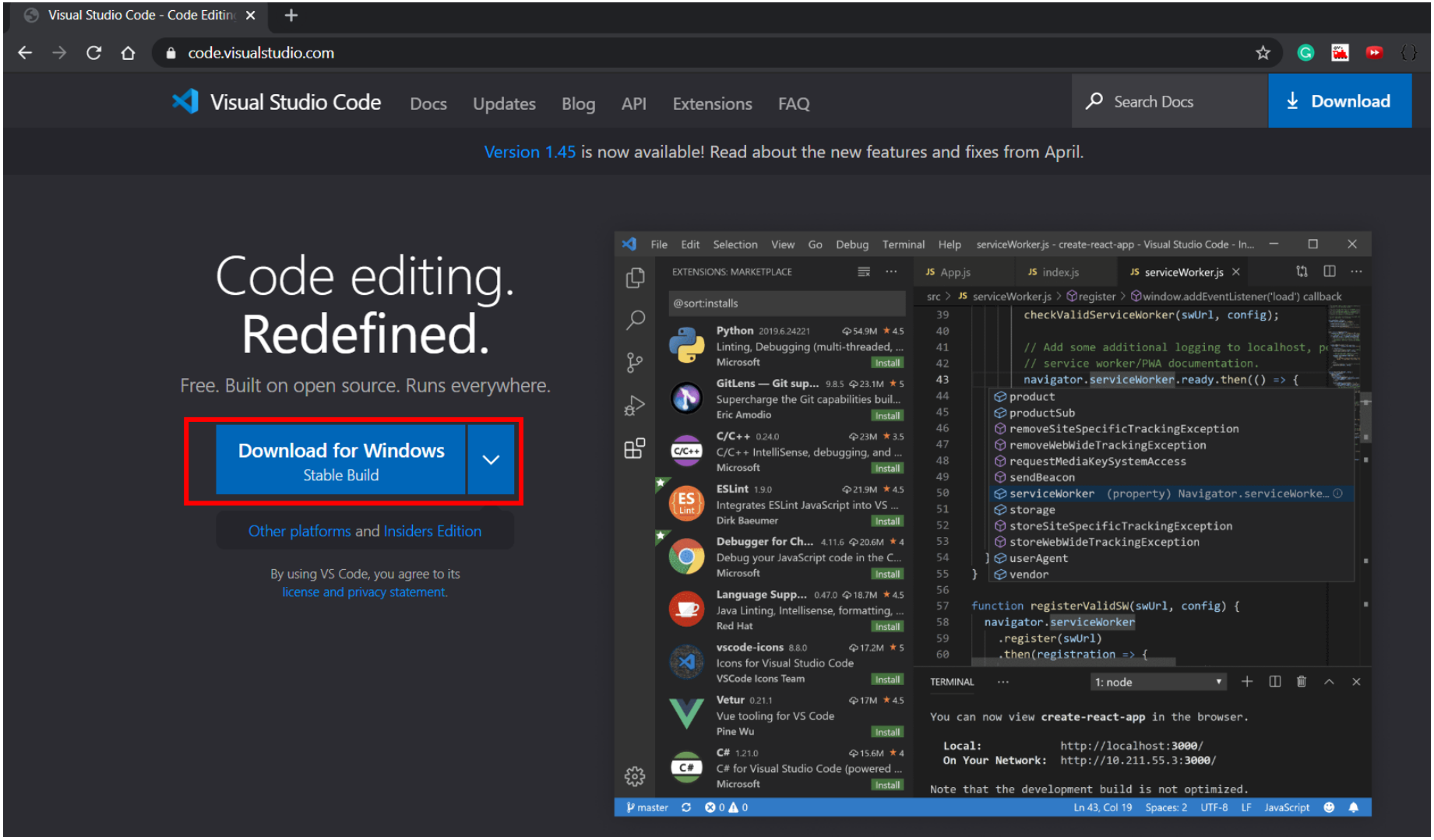
Install IDE (Integrated Development Environment)



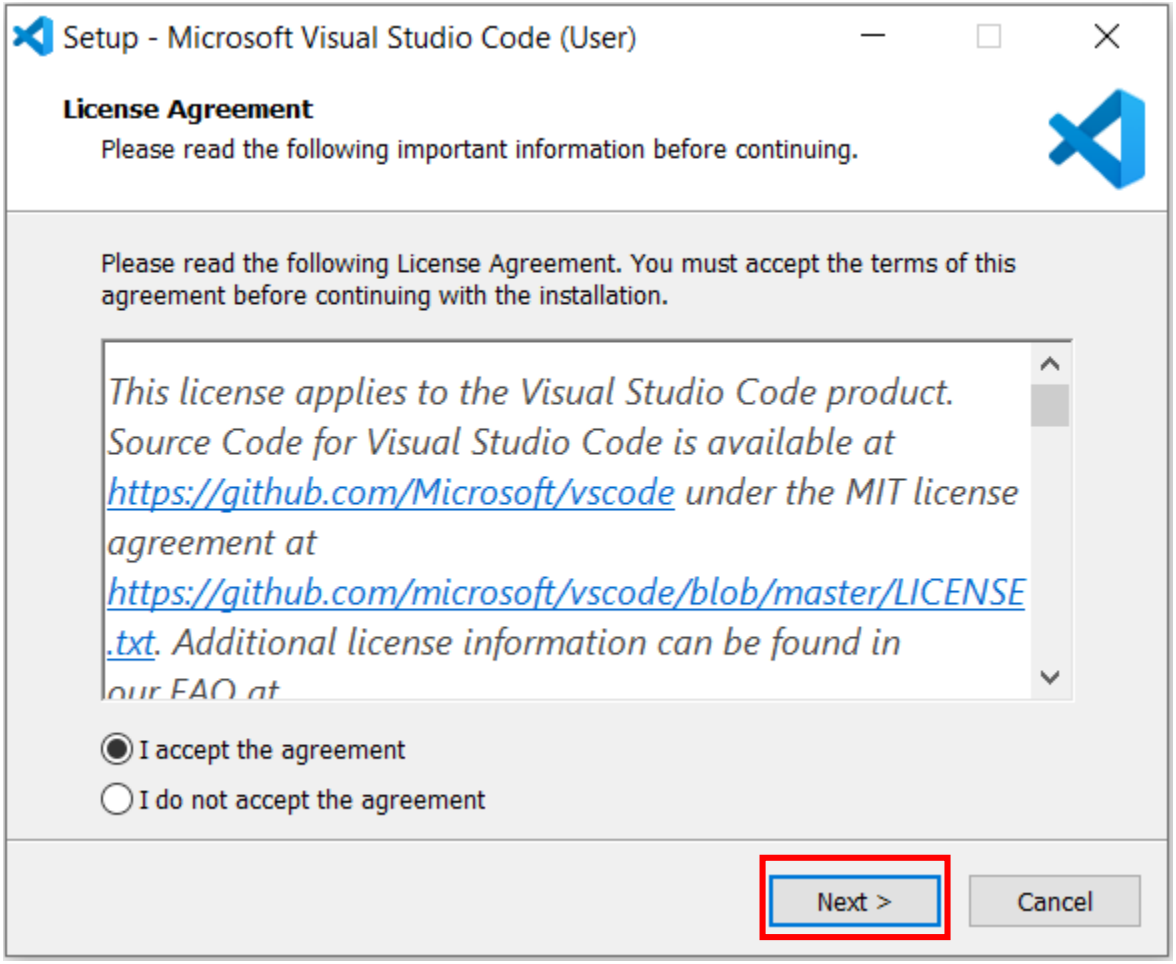
https://code.visualstudio.com/

Install IDE

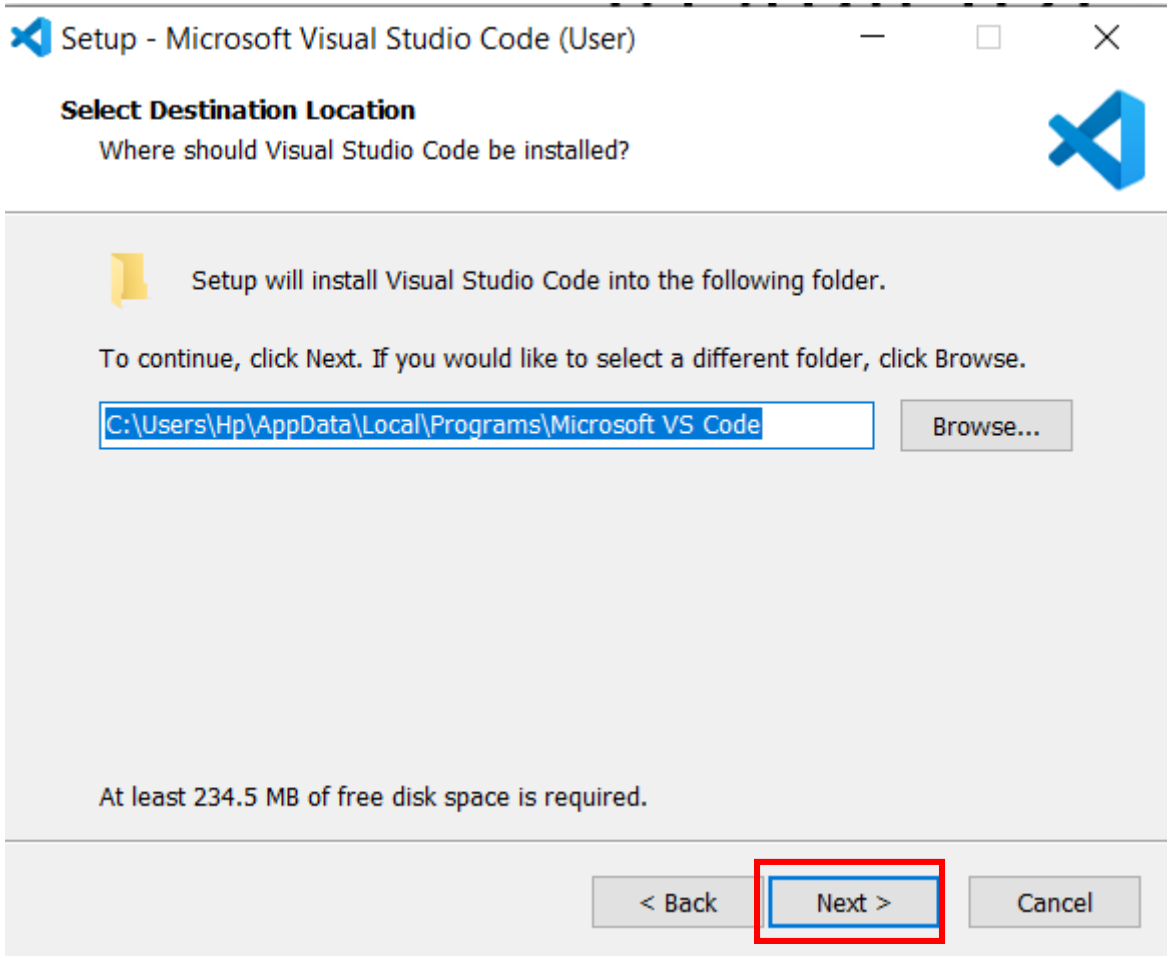
https://code.visualstudio.com/



Install IDE

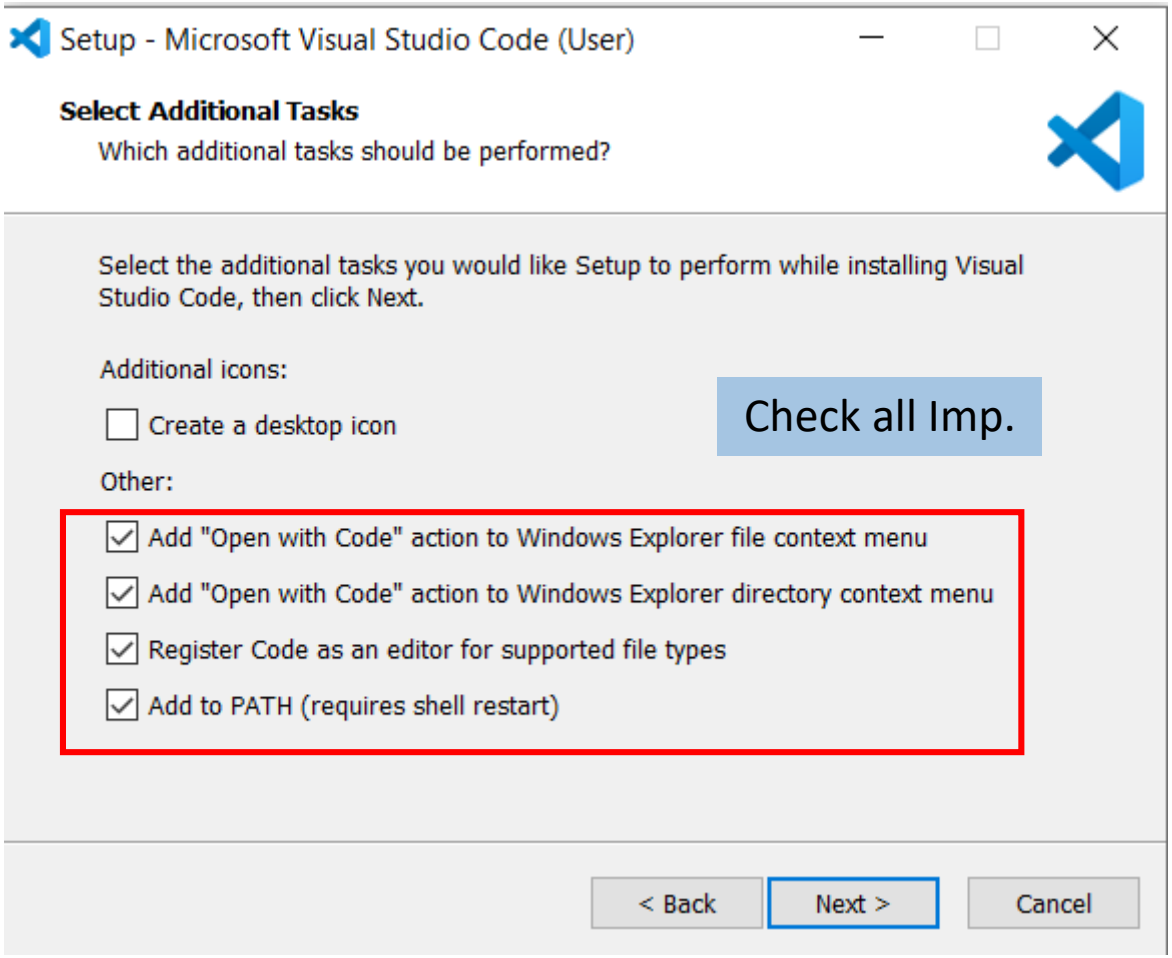

Setup - Microsoft Visual Studio Code (User)
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
This license applies to the Visual Studio Code product. Source Code for Visual Studio Code is available at https://github.com/Microsoft/vscode under the MIT license agreement at https://github.com/microsoft/vscode/blob/master/LICENSE.txt. Additional license information can be found in
I accept the agreement
I do not accept the agreement
Next >
Cancel

Install IDE

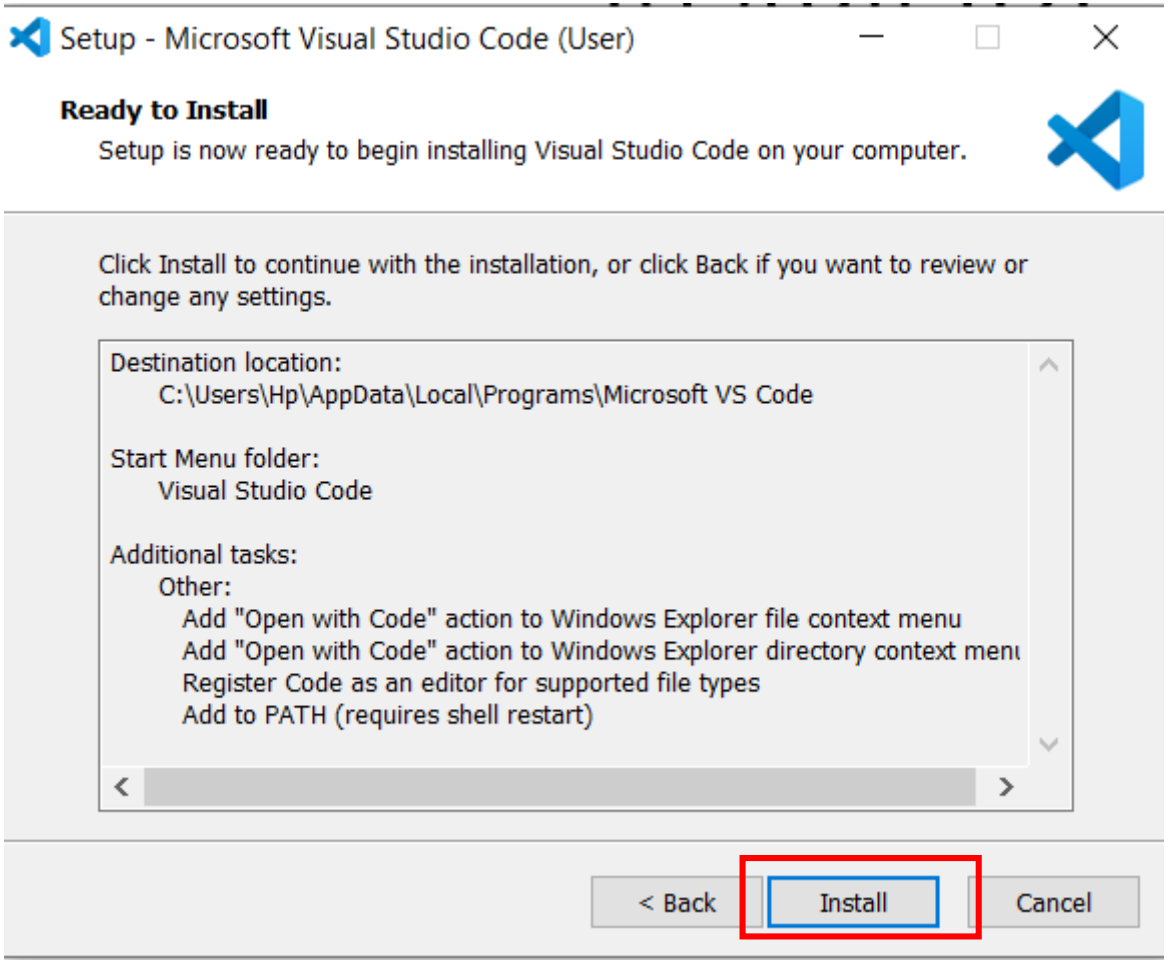


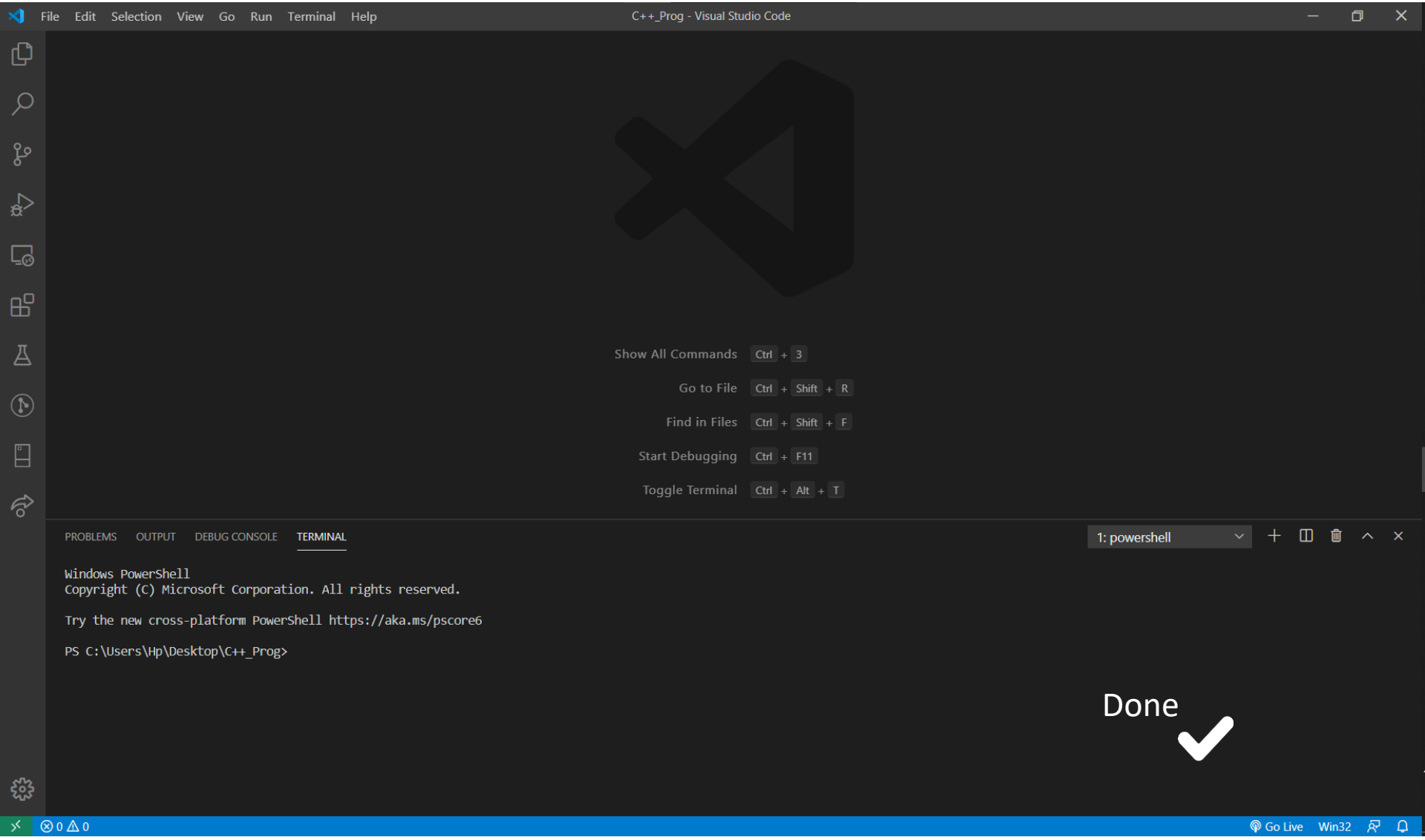
Then Next

Install IDE


Setup - Microsoft Visual Studio Code (User)
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Visual Studio Code, then click Next.
Additional icons:
Create a desktop icon
Check all Imp.
Other:
Add "Open with Code" action to Windows Explorer file context menu
Add "Open with Code" action to Windows Explorer directory context menu
Register Code as an editor for supported file types
Add to PATH (requires shell restart)
< Back
Next >
Cancel

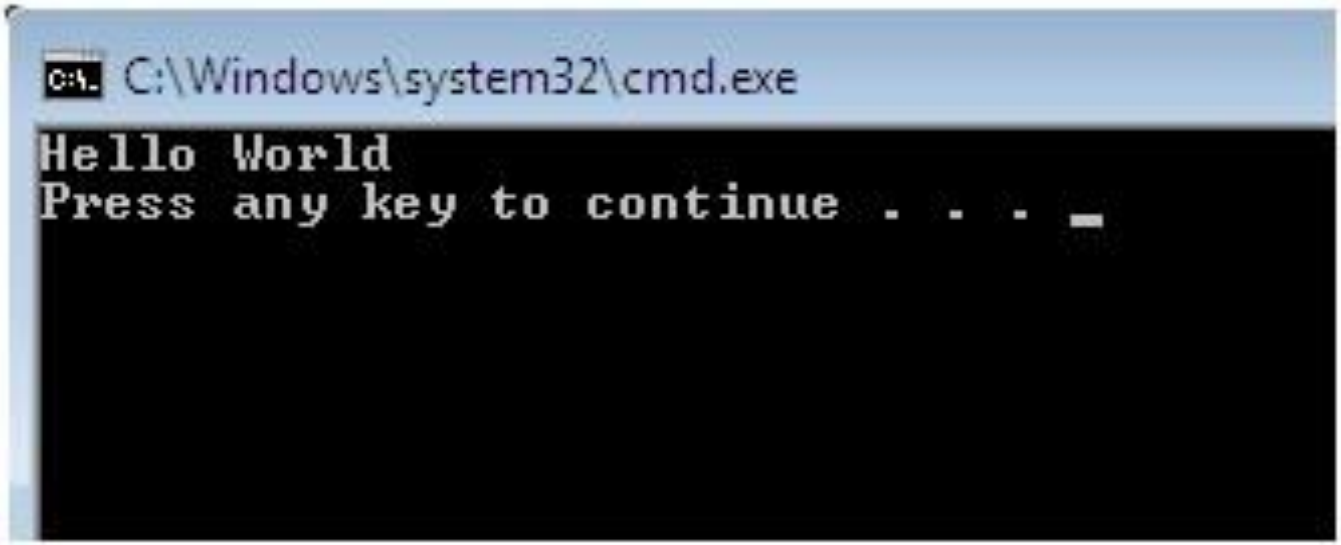
Install IDE


Setup - Microsoft Visual Studio Code (User)
Ready to Install
Setup is now ready to begin installing Visual Studio Code on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Users\Hp\AppData\Local\Programs\Microsoft VS Code
Start Menu folder:
Visual Studio Code
Additional tasks:
Other:
Add "Open with Code" action to Windows Explorer file context menu
Add "Open with Code" action to Windows Explorer directory context menu
Register Code as an editor for supported file types
Add to PATH (requires shell restart)
< Back
Install
Cancel


File Edit Selection View Go Run Terminal Help
C++_Prog - Visual Studio Code
Show All Commands Ctrl + 3
Go to File Ctrl + Shift + R
Find in Files Ctrl + Shift + F
Start Debugging Ctrl + F11
Toggle Terminal Ctrl + Alt + T
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1: powershell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\Hp\Desktop\C++_Prog>
Done
Go Live
Win32

Hello World!

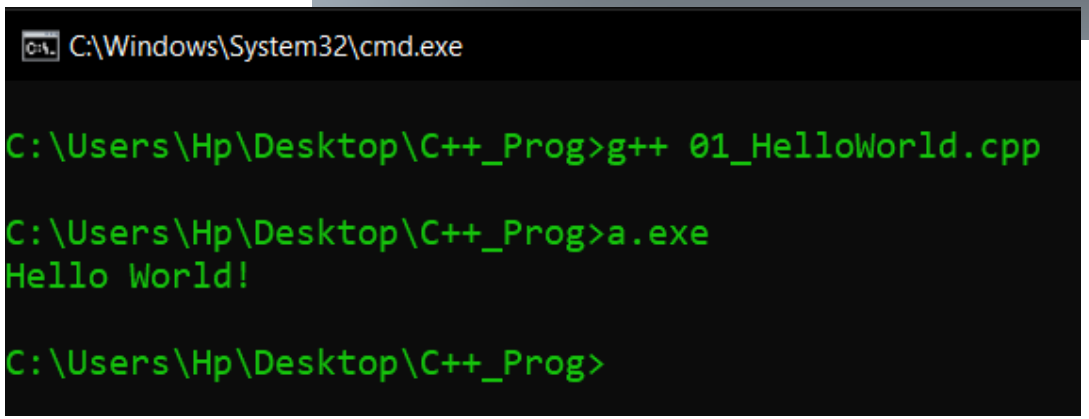
Now Lets Code !!



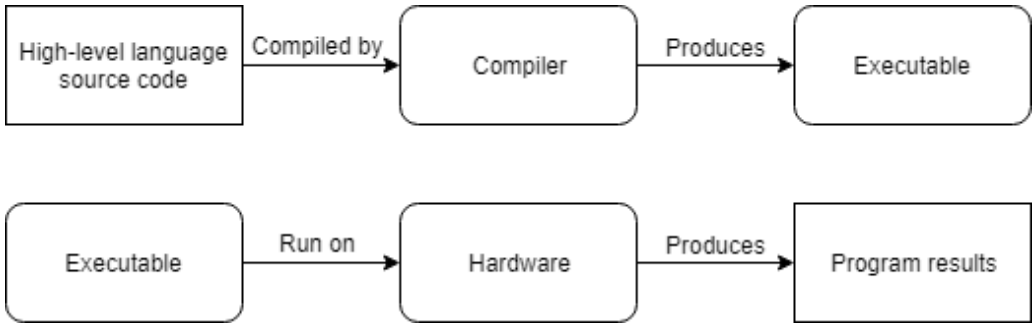
Hello World!

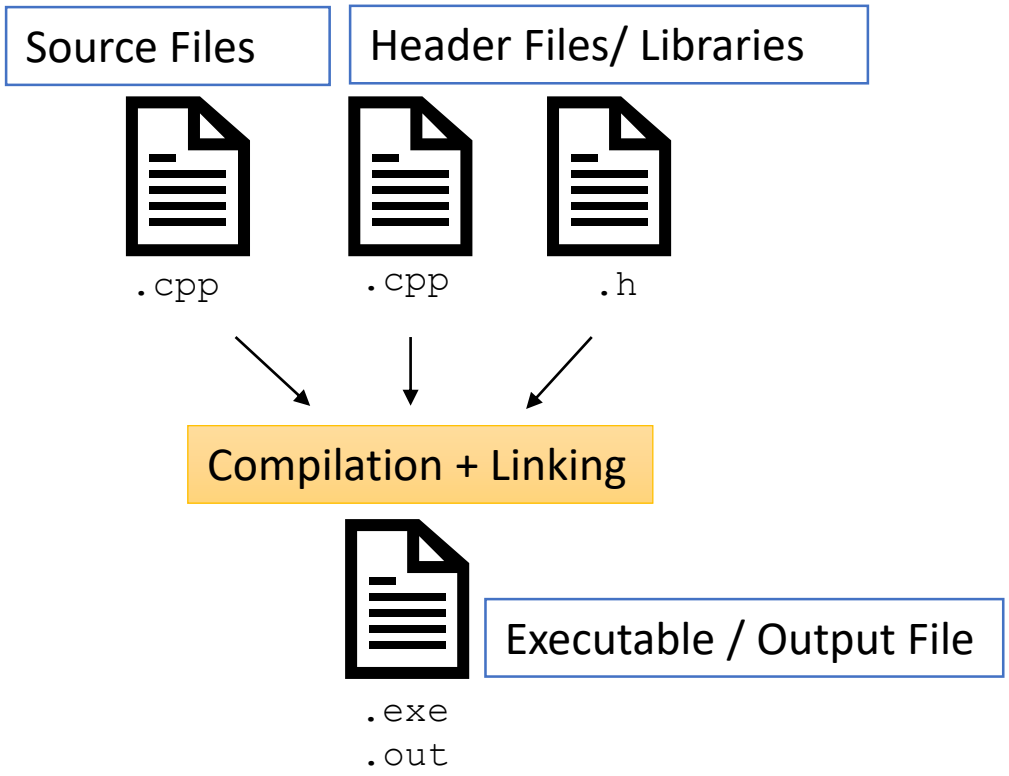
```cpp
#include <iostream>
using namespace std;

int main()
{
    cout << "Hello World!" << endl;
    return 0;
}
```



How does it work





Variables

```
int age = 20;
```

datatype

value

variable name

```
int date;
date = 12;
```

```
string name = "Tanmay";
```