

# C Programming Environment Setup on Windows

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Using Visual Studio Code and GCC

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### 1. Installing VS Code

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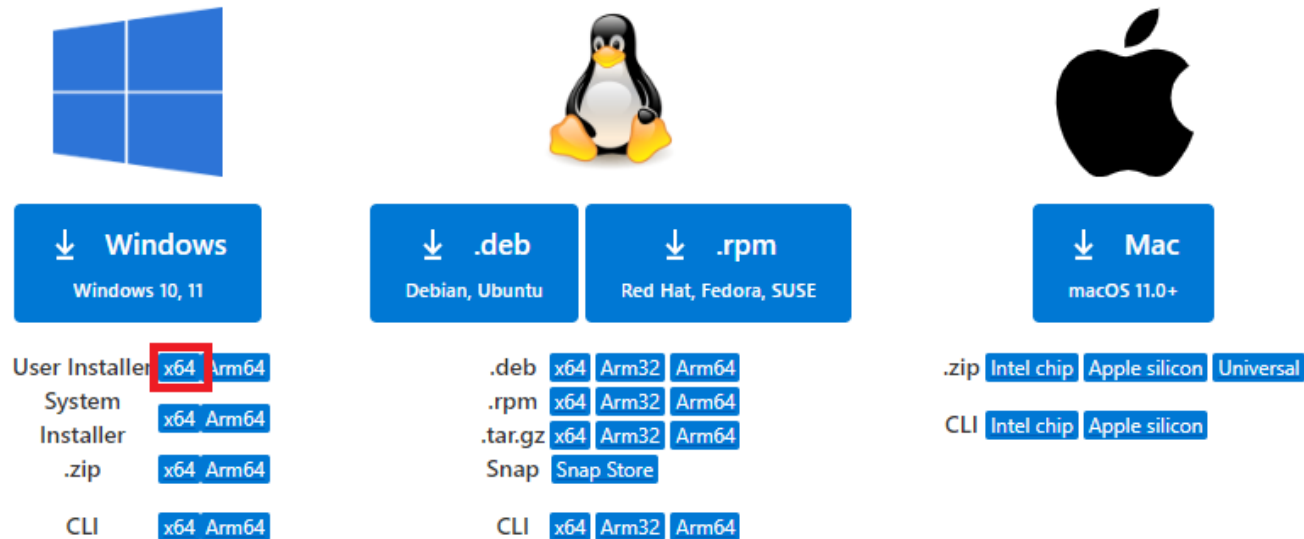
# 1.1. Installing VS Code(1/3)

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Download link: <https://code.visualstudio.com/Download>

## Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.

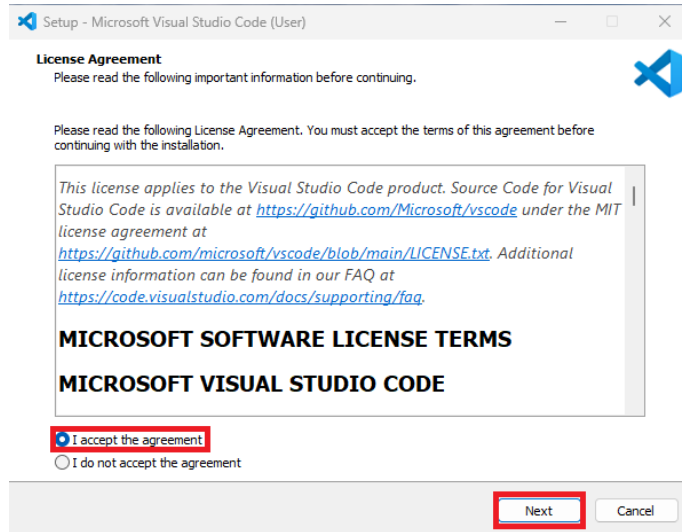


The image shows the download page for Visual Studio Code. It features three main sections: Windows, Linux, and Mac. Each section has a logo at the top, a download button, and a list of available installers. The Windows section has a blue Windows logo and a button labeled 'Windows' with a download icon. Below it, a list of installers is shown: 'User Installer' (with 'x64' highlighted in a red box), 'System Installer', '.zip', and 'CLI'. The Linux section has a Tux penguin logo and two buttons: '.deb' (for Debian, Ubuntu) and '.rpm' (for Red Hat, Fedora, SUSE). Below these, a list of installers is shown: '.deb', '.rpm', '.tar.gz', 'Snap', and 'CLI'. The Mac section has an Apple logo and a button labeled 'Mac' with a download icon. Below it, a list of installers is shown: '.zip' and 'CLI'.

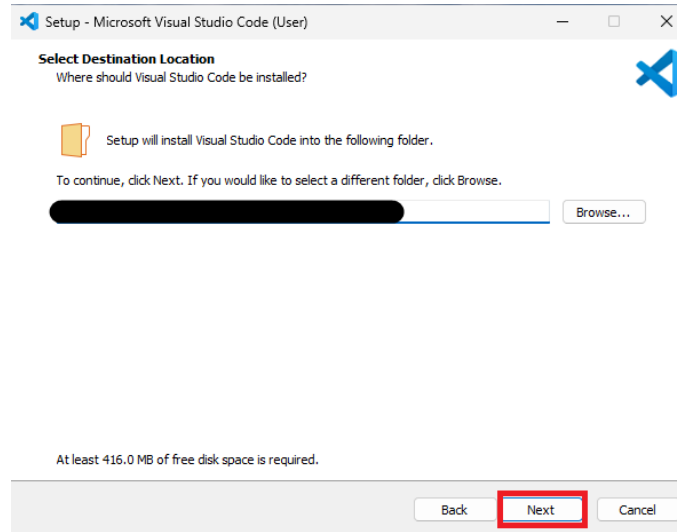
| Platform | Installer Type   | Architecture                         |
|----------|------------------|--------------------------------------|
| Windows  | User Installer   | x64, Arm64                           |
|          | System Installer | x64, Arm64                           |
|          | .zip             | x64, Arm64                           |
|          | CLI              | x64, Arm64                           |
|          |                  |                                      |
| Linux    | .deb             | x64, Arm32, Arm64                    |
|          | .rpm             | x64, Arm32, Arm64                    |
|          | .tar.gz          | x64, Arm32, Arm64                    |
|          | Snap             | Snap Store                           |
|          | CLI              | x64, Arm32, Arm64                    |
|          |                  |                                      |
|          |                  |                                      |
| Mac      | .zip             | Intel chip, Apple silicon, Universal |
|          | CLI              | Intel chip, Apple silicon            |
|          |                  |                                      |

Click User Installer (x64) → Run the downloaded file to begin installation

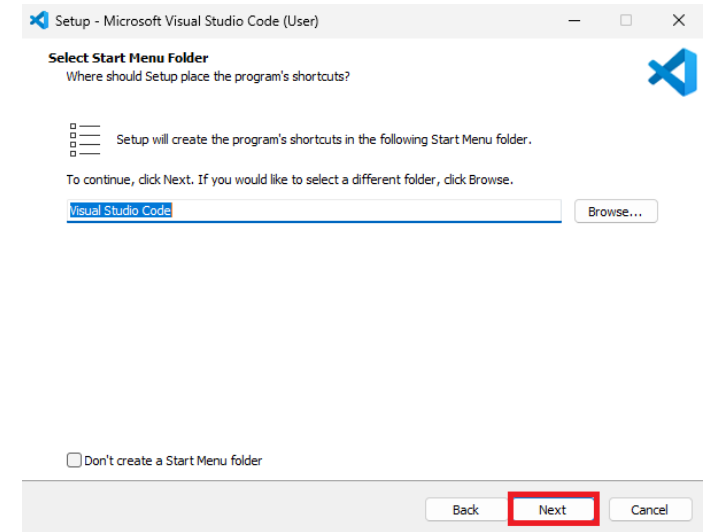
# 1.1. Installing VS Code(2/3)



- Check I accept the agreement.
- Click Next to continue.

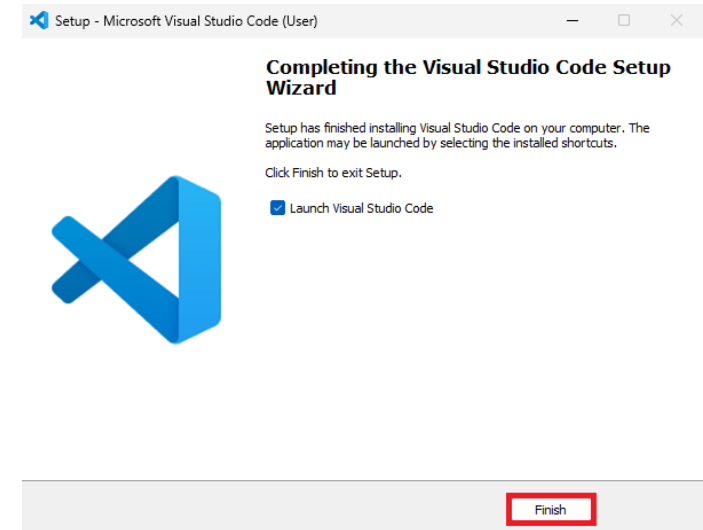
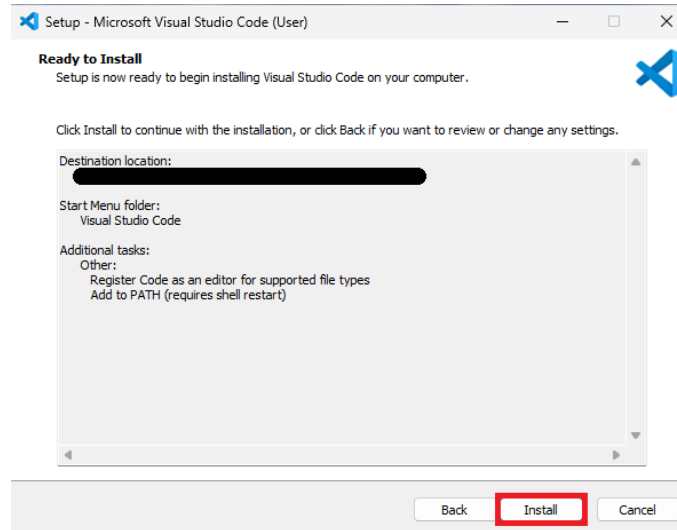
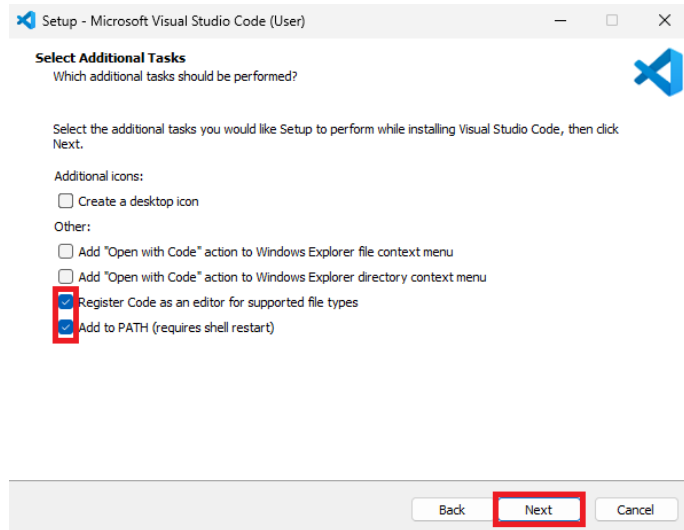


- Click Next to continue.



- Do not check Don't create a Start Menu folder.
- Click Next to continue

# 1.1. Installing VS Code(3/3)

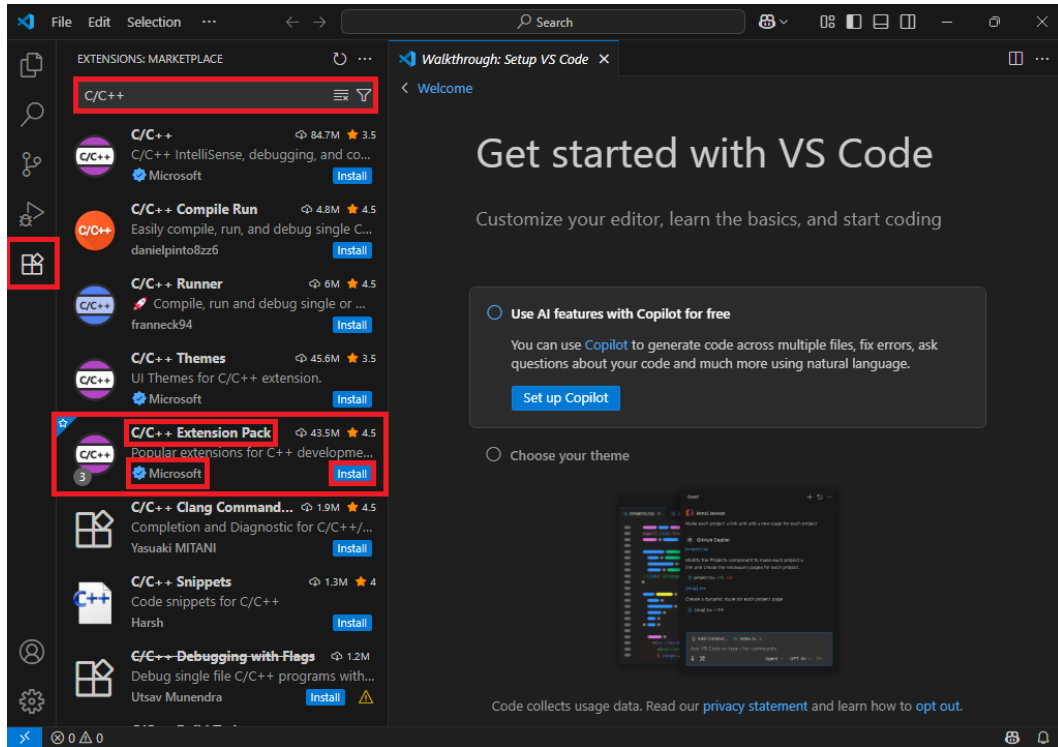


- Check Register Code as an editor for supported file types.
- Check Add to PATH.
- Click Next to continue.

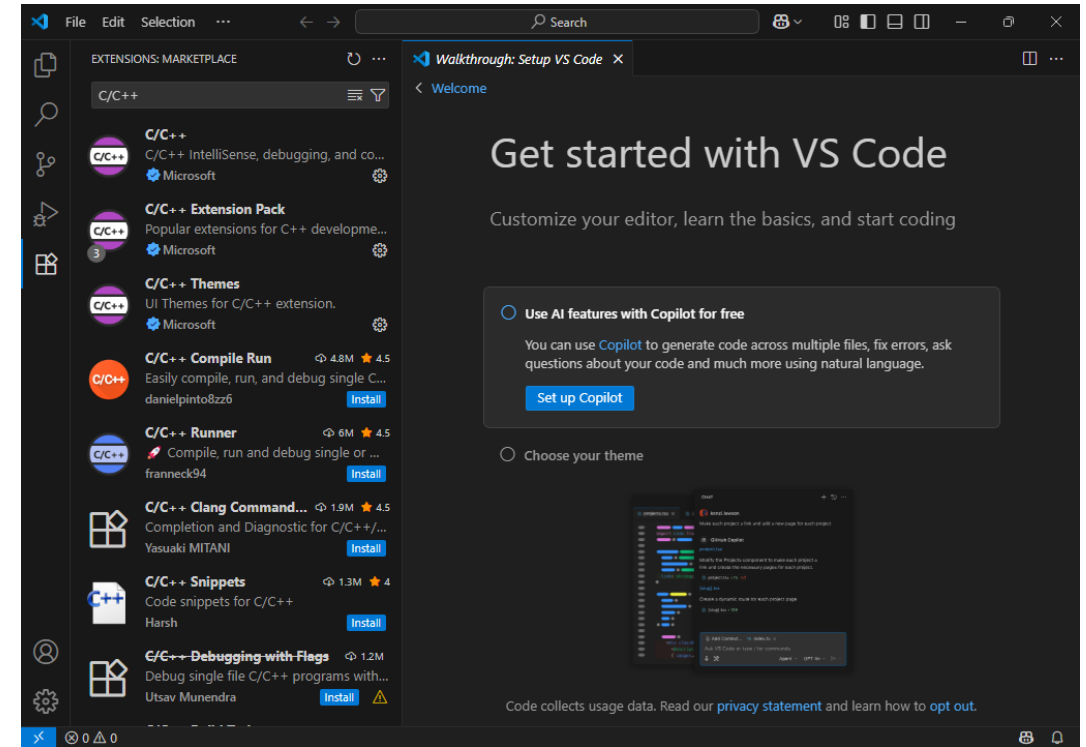
- Click Install to begin the installation.

- Check Launch Visual Studio Code.
- Click Finish to complete the installation.

# 1.2. Installing C/C++ Extensions for VS Code



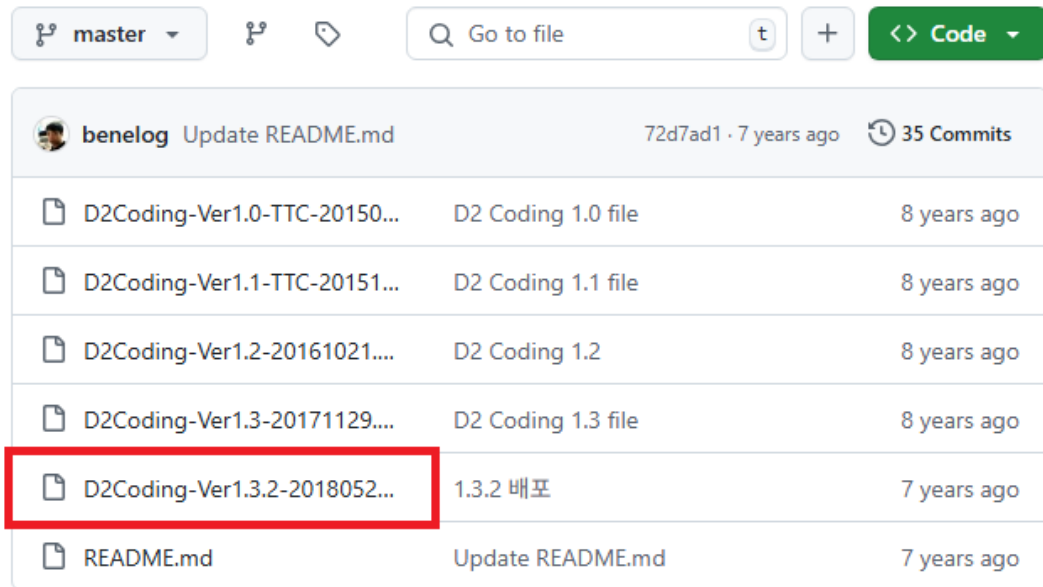
- Click the Extensions icon in the Activity Bar on the left.
- In the search bar, type C/C++.
- Find and install C/C++ Extension Pack by Microsoft.



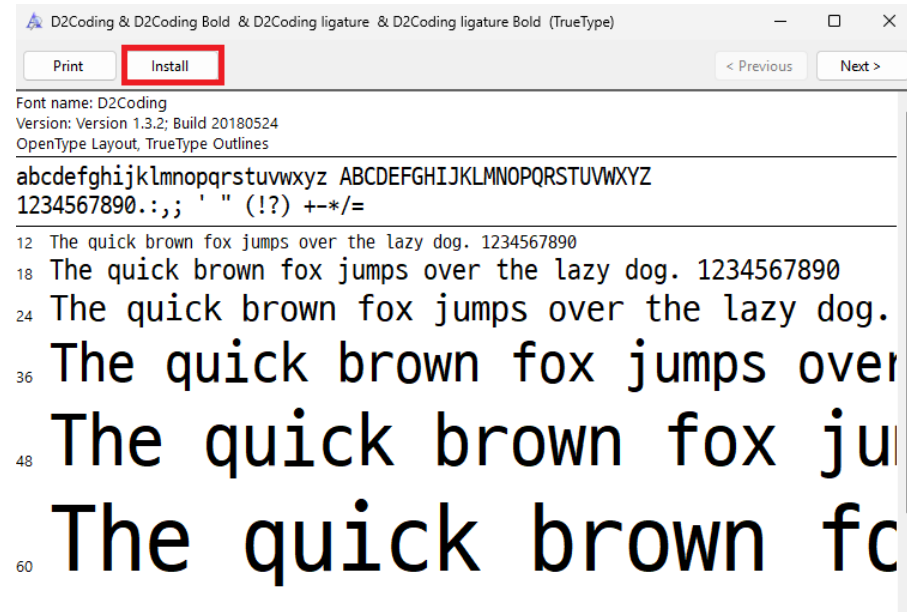
- After installing, 4 extensions are automatically added: C/C++, C/C++ Extension Pack, C/C++ Themes, CMake Tools

# 1.3. Additional Settings (Optional) – Fonts(1/2)

Download link: <https://github.com/naver/d2codingfont>

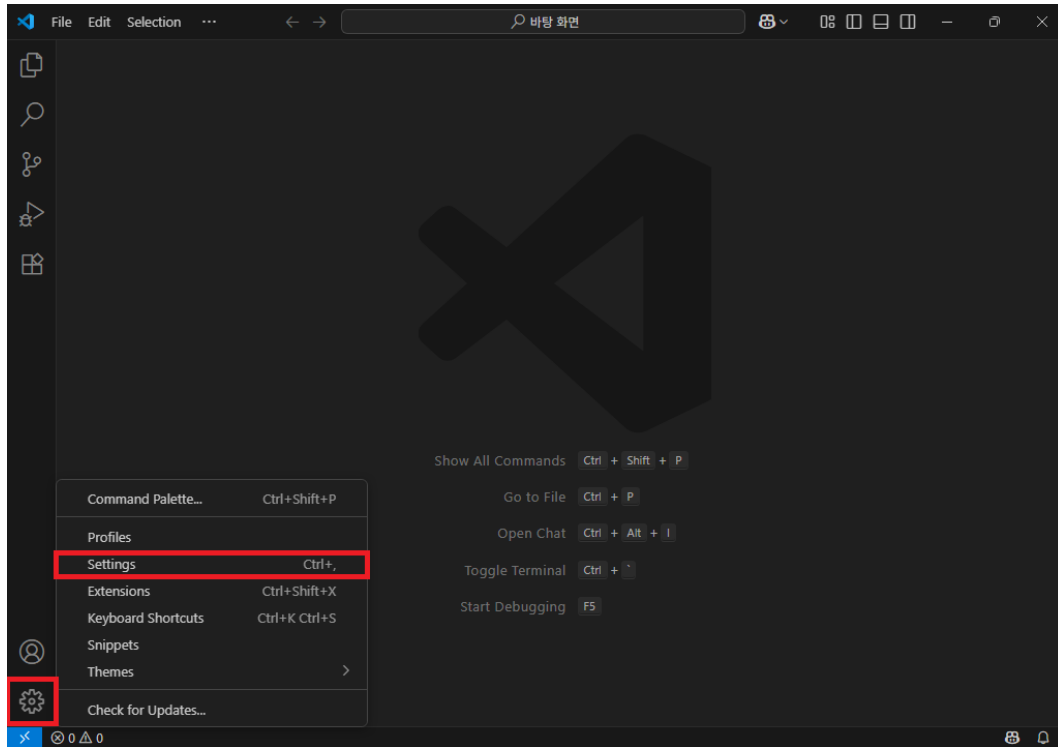


- Download the latest version.
- Extract the downloaded archive.

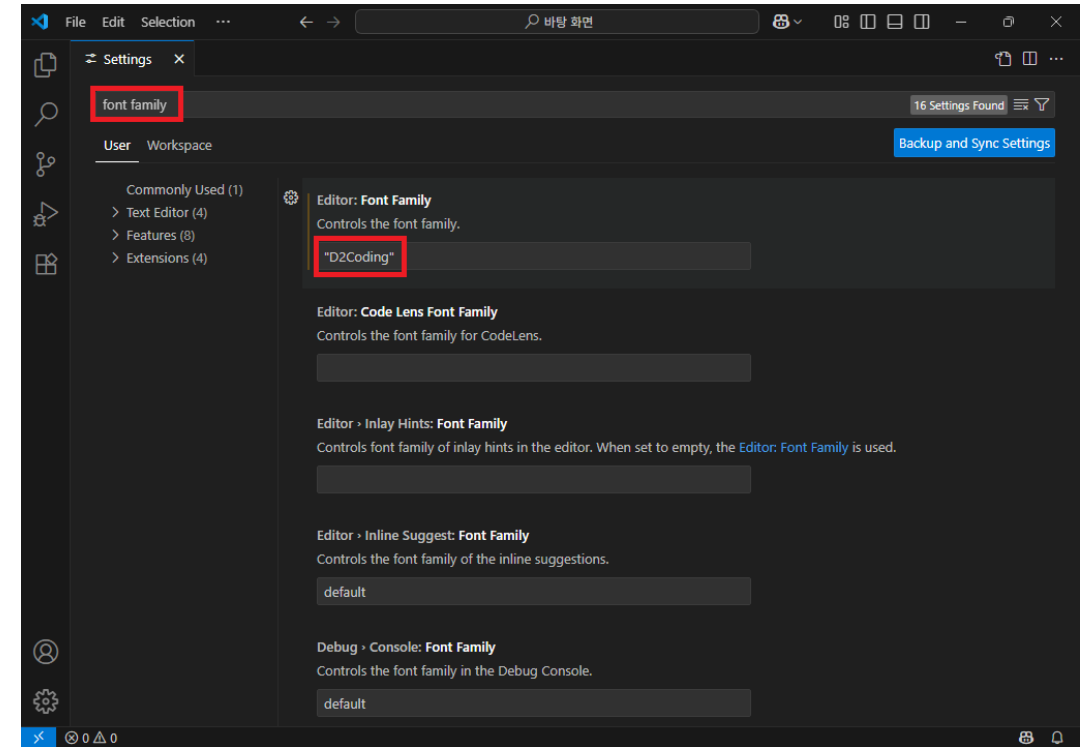


- Open the .ttc file inside the D2CodingAll.
- Click the Install button to install the font.

# 1.3. Additional Settings (Optional) – Fonts(2/2)



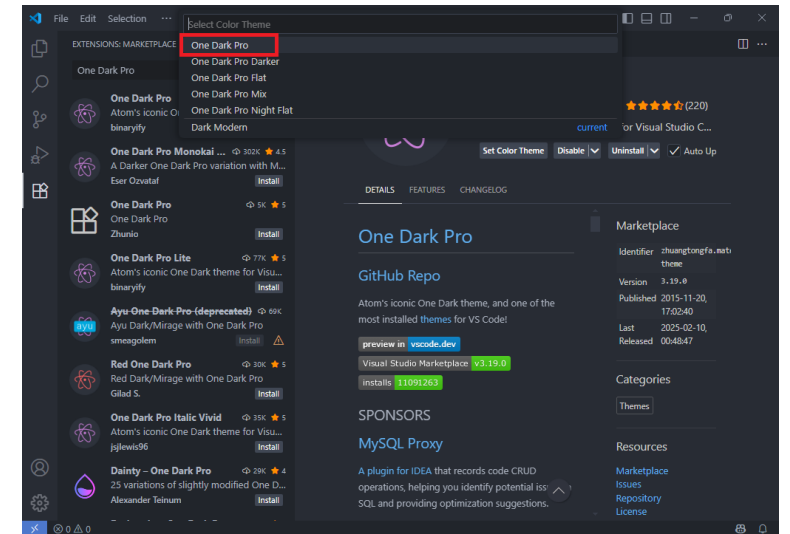
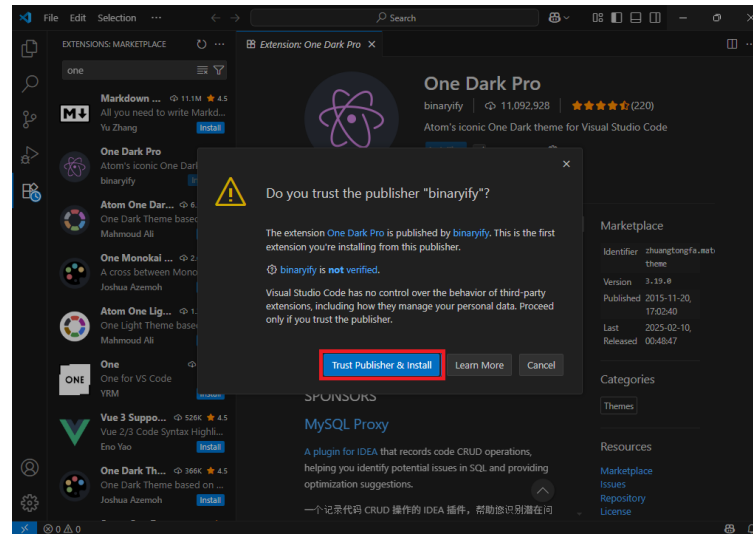
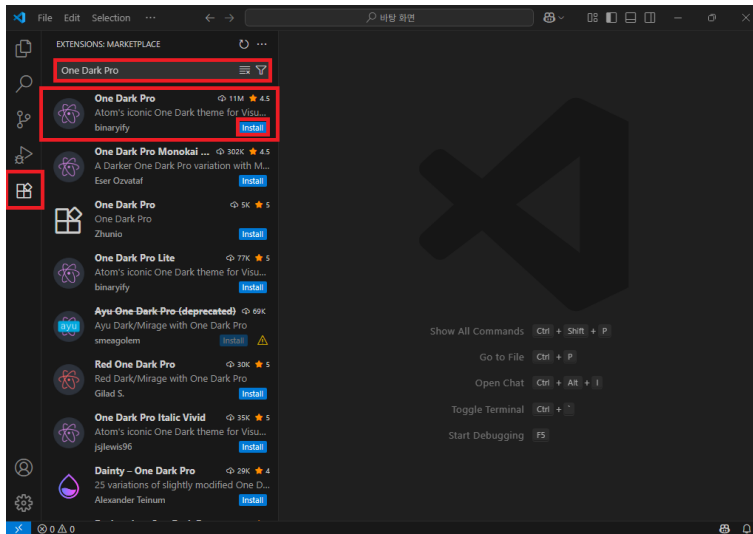
- Click the gear icon in the bottom-left corner to open the menu.
- From the menu, select Settings.



- In the search bar at the top, type font family.
- In Editor: Font Family, type "D2Coding" to set the editor font.



# 1.3. Additional Settings (Optional) – Themes



- Click the Extensions icon in the Activity Bar on the left.
- In the search bar, type One Dark Pro.
- Find and install One Dark Pro by binaryify.

- Click Trust Publisher & Install when prompted.
- This completes the theme installation.

- After installation, a list of themes appears.
- Select One Dark Pro to apply it.

## 2. Installing the GCC Compiler(1/4)

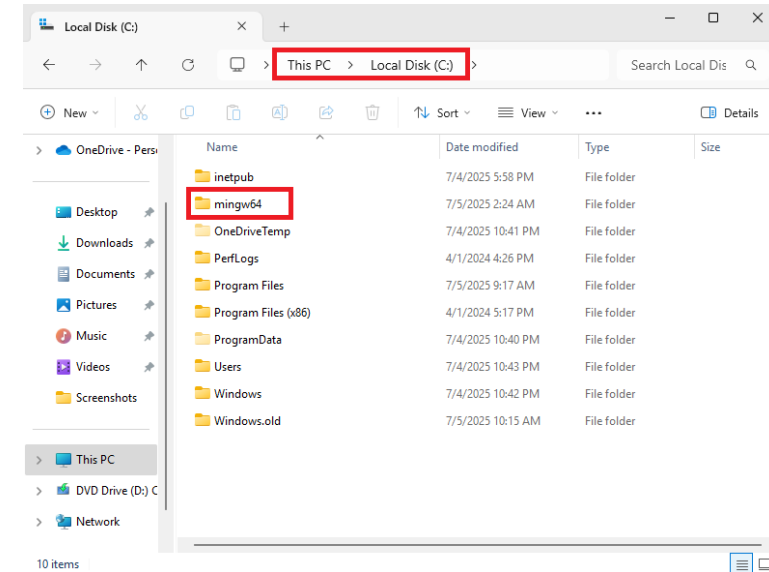
Download link: <https://winlibs.com>

### Release versions

#### UCRT runtime

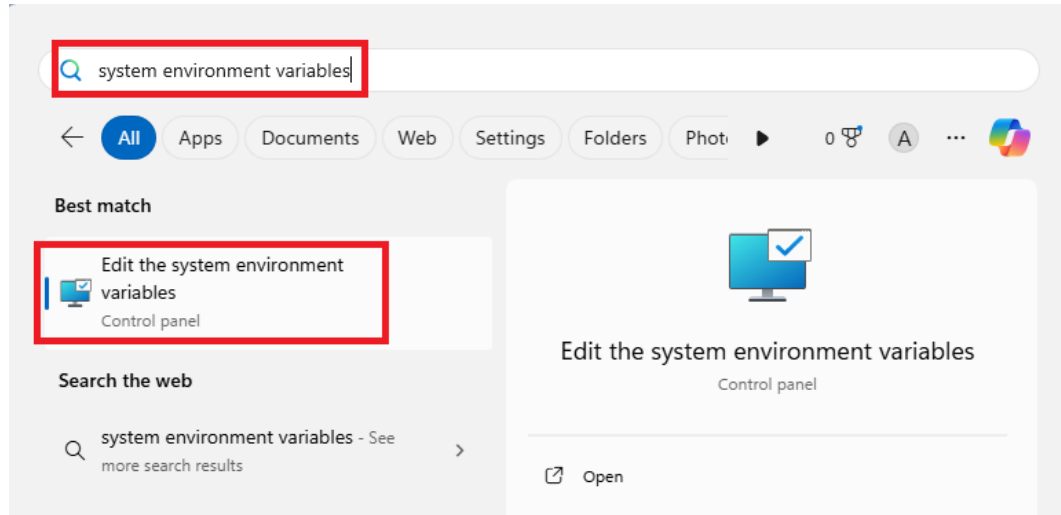
- GCC 15.1.0 (with **POSIX** threads) + MinGW-w64 13.0.0 UCRT - release 2 **(LATEST)**
  - Win32 (without LLVM/Clang/LLD/LLDB): [7-Zip archive\\*](#) | [Zip archive](#)
  - Win64 (without LLVM/Clang/LLD/LLDB): [7-Zip archive\\*](#) | [Zip archive](#)
- GCC 15.1.0 (with **POSIX** threads) + MinGW-w64 12.0.0 UCRT - release 1
  - Win32 (without LLVM/Clang/LLD/LLDB): [7-Zip archive\\*](#) | [Zip archive](#)
  - Win64 (without LLVM/Clang/LLD/LLDB): [7-Zip archive\\*](#) | [Zip archive](#)

- Click on Zip archive (Win64, UCRT) to download the latest GCC version.  
Recommended: version with POSIX threads
- Extract the downloaded archive.

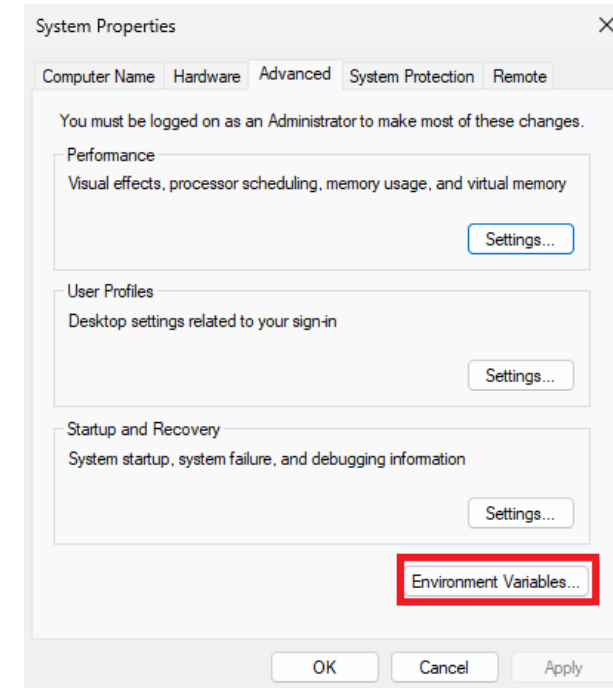


- Move the root-level mingw64 folder to the C: drive.
- Make sure the final path is exactly C:\mingw64.

## 2. Installing the GCC Compiler(2/4)

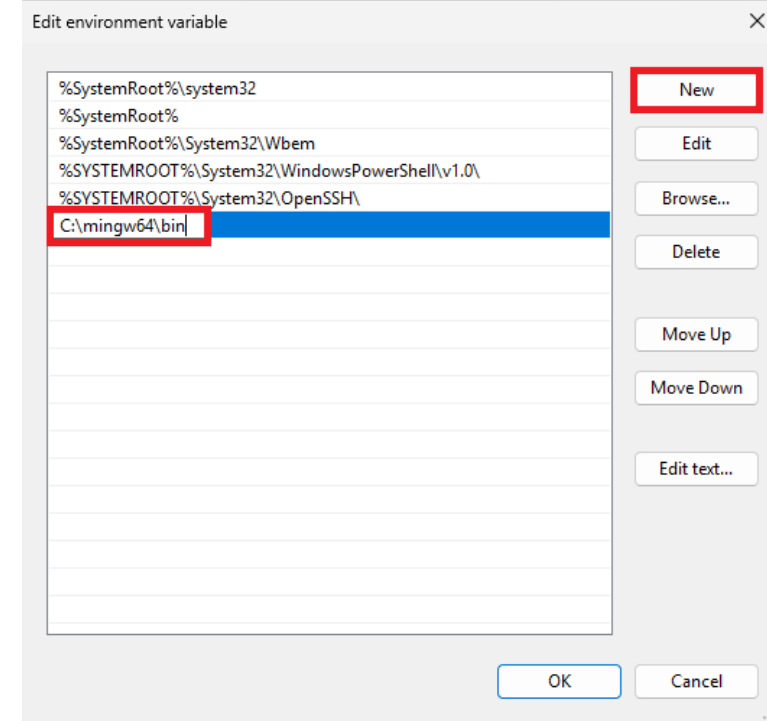
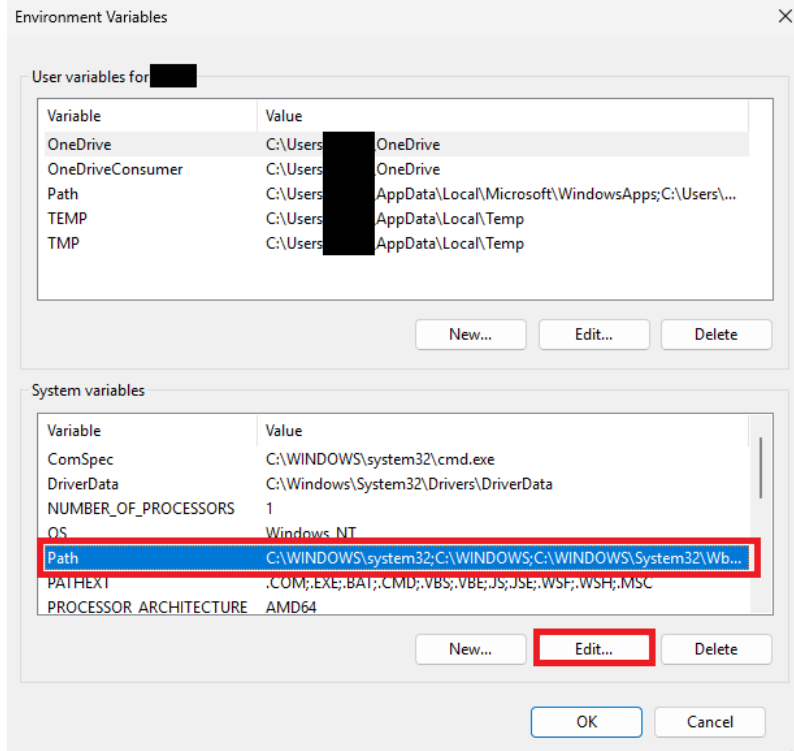


- Press the Windows key and type system environment variables.
- Select "Edit the system environment variables" from the search results.



- Click the "Environment Variables..." button at the bottom.

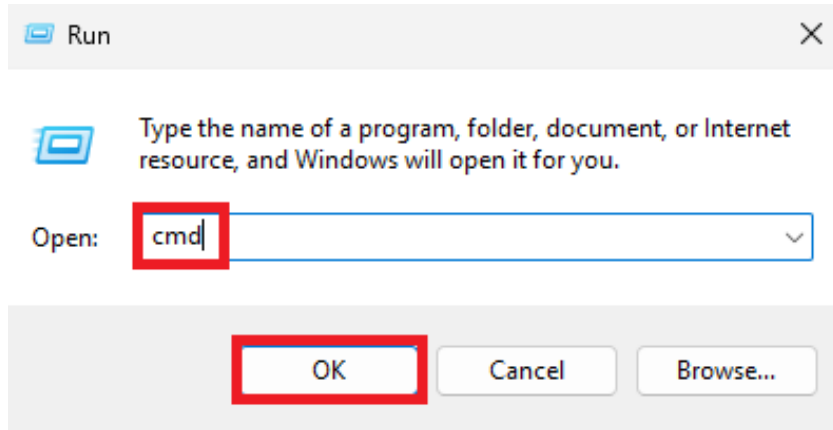
## 2. Installing the GCC Compiler(3/4)



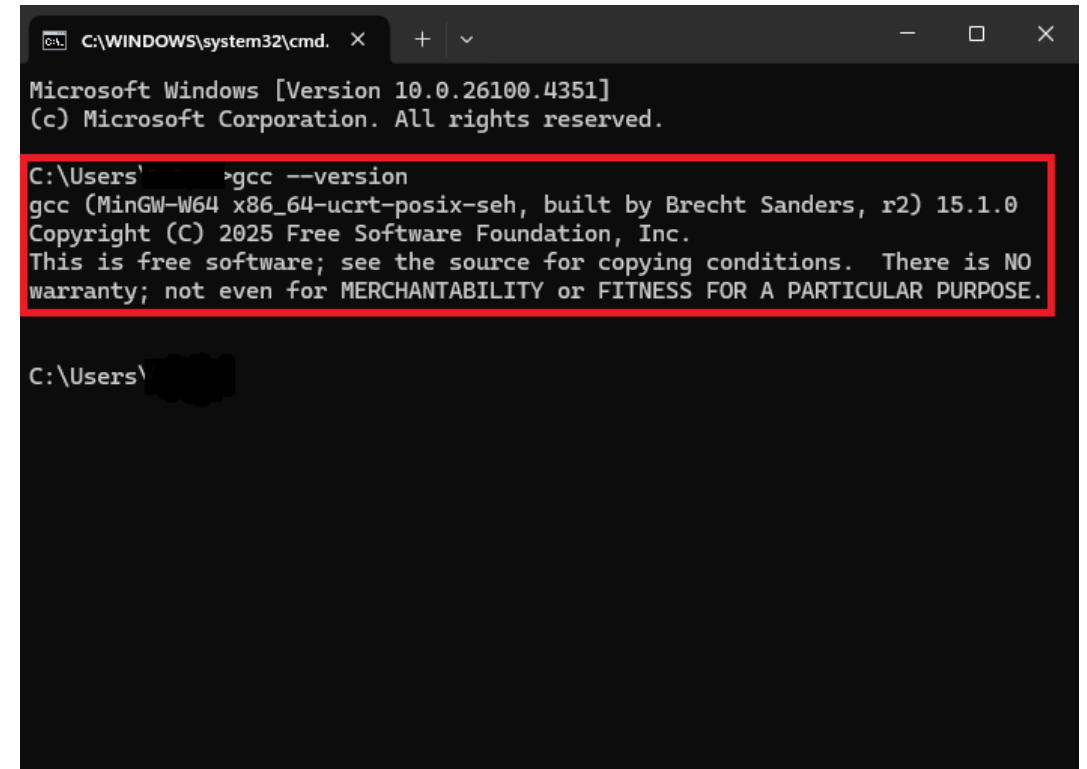
- Under System variables, find and select the Path variable.
- Click "Edit..." to open the list of environment paths.

- Click "New" and add the following path: C:\mingw64\bin
- This allows you to run gcc and related commands from any terminal.
- Click OK on all open dialogs to save the changes and close the windows.

## 2. Installing the GCC Compiler(4/4)

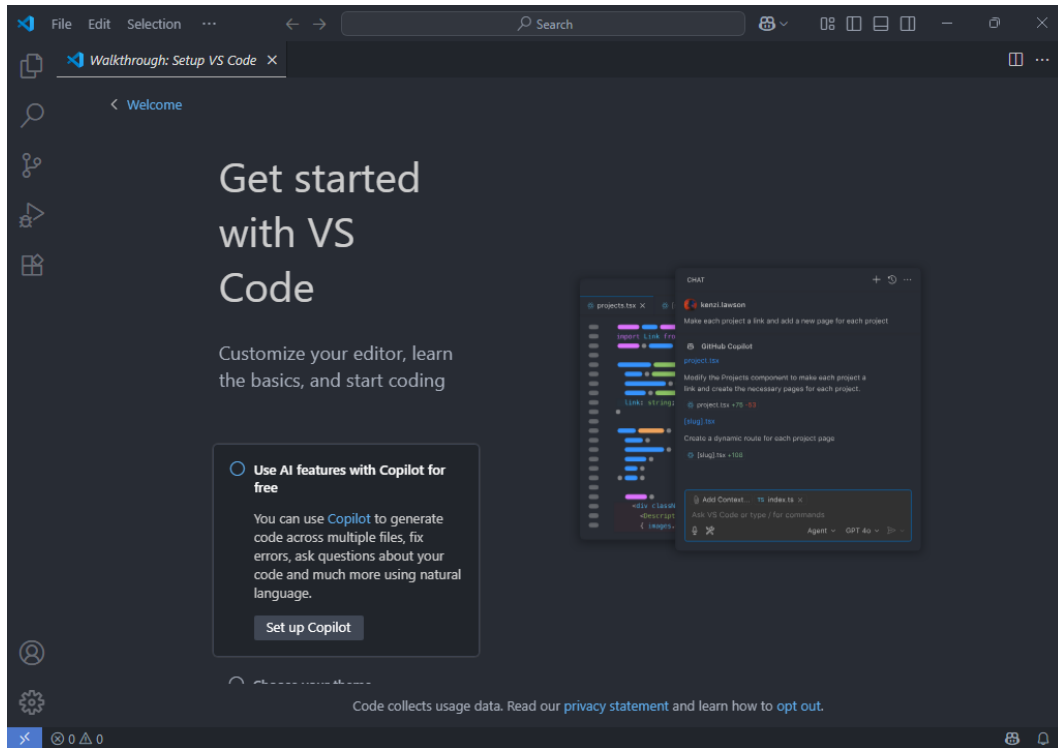


- Press the Windows key, type cmd in the search bar, and click OK.

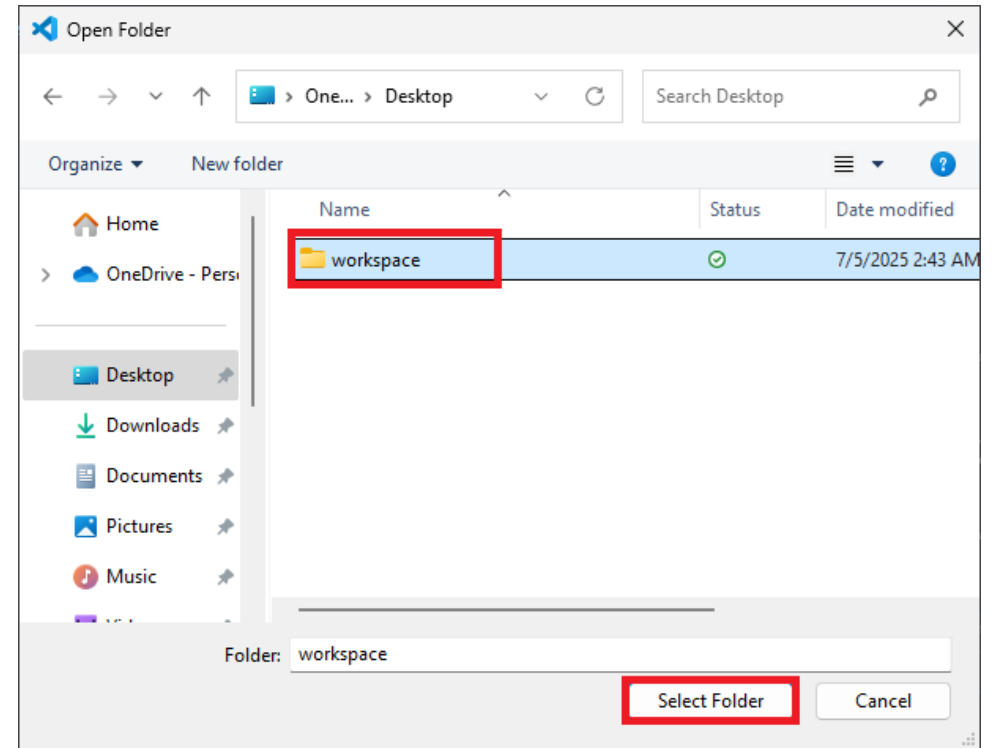


- To verify the setup, open Command Prompt and run gcc --version.
- The version number should be displayed without any errors.

# 3. Writing and Running Your First C Program(1/2)

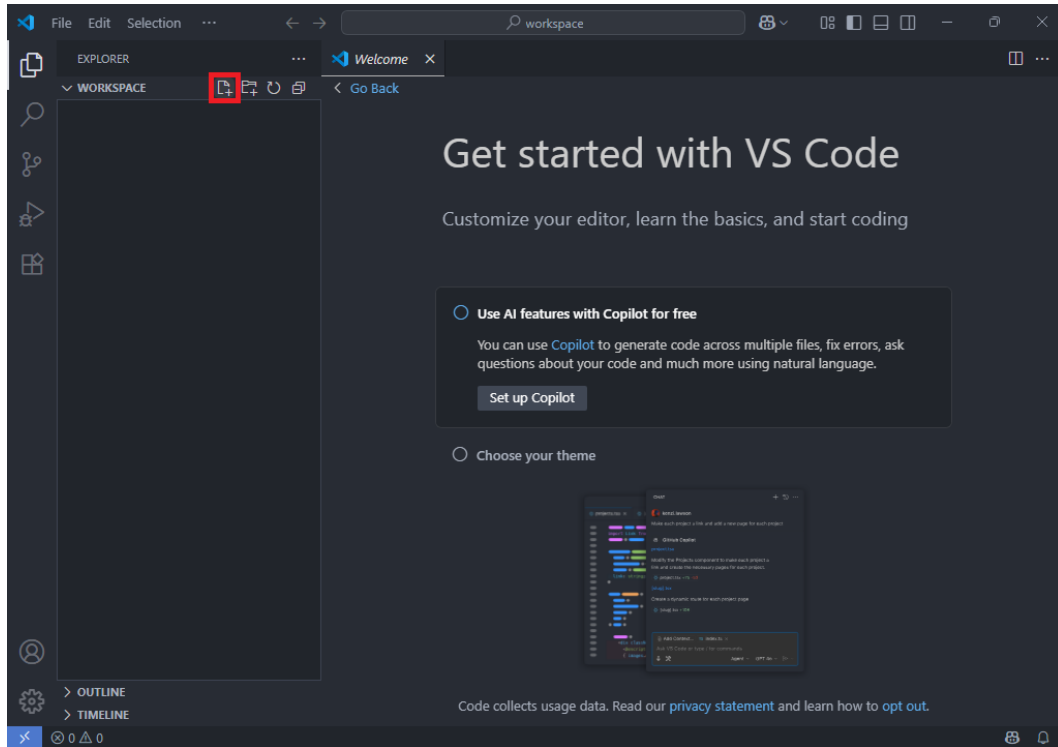


- Launch Visual Studio Code.
- Press Ctrl + K, then O to open folder you want to use.

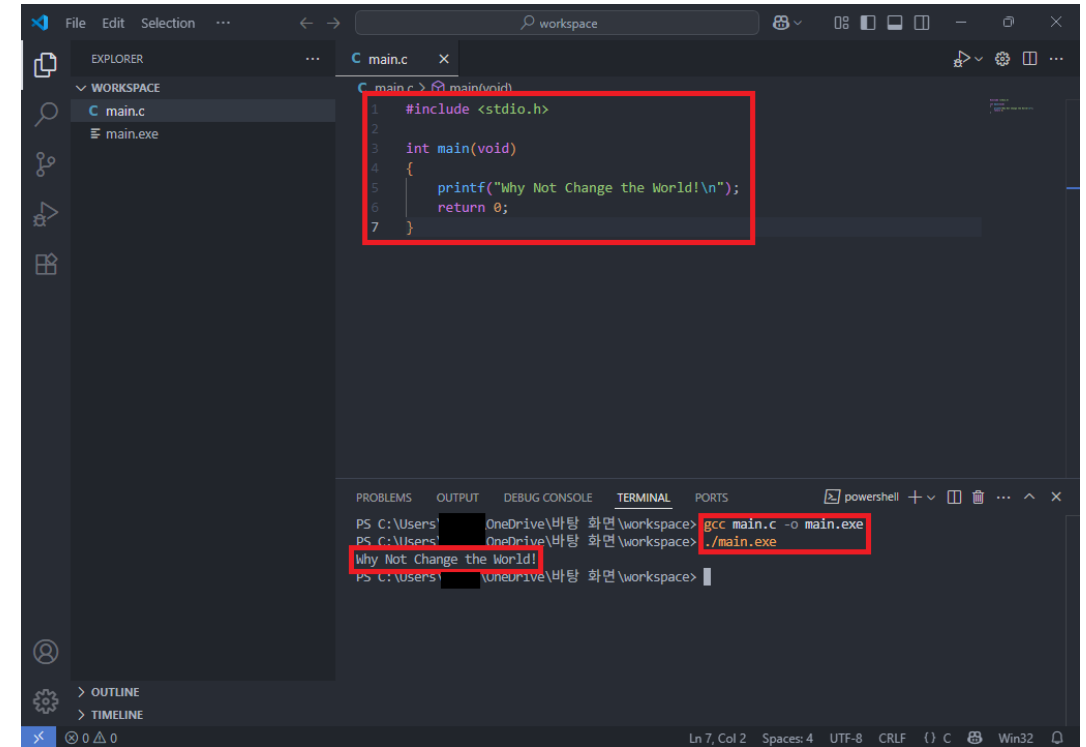


- Create a folder and click Select Folder.  
In this example, a folder named workspace was created on the Desktop.

# 3. Writing and Running Your First C Program(2/2)



- Click the New File icon and create a file named main.c.



- Follow the example and write the code in main.c.
- In the terminal, type: `gcc main.c -o main.exe`
- In the terminal, type: `./main.exe`
- Seeing the printed message means the setup is complete.

# Thank you

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Wishing you an enjoyable and meaningful learning experience.

May you grow into an engineer who learns with joy and shares with others.

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