Future Vehicle Education Workshop

Subject: Environment Setting

Automation Lab.

PC

■ PC Hardware Environment
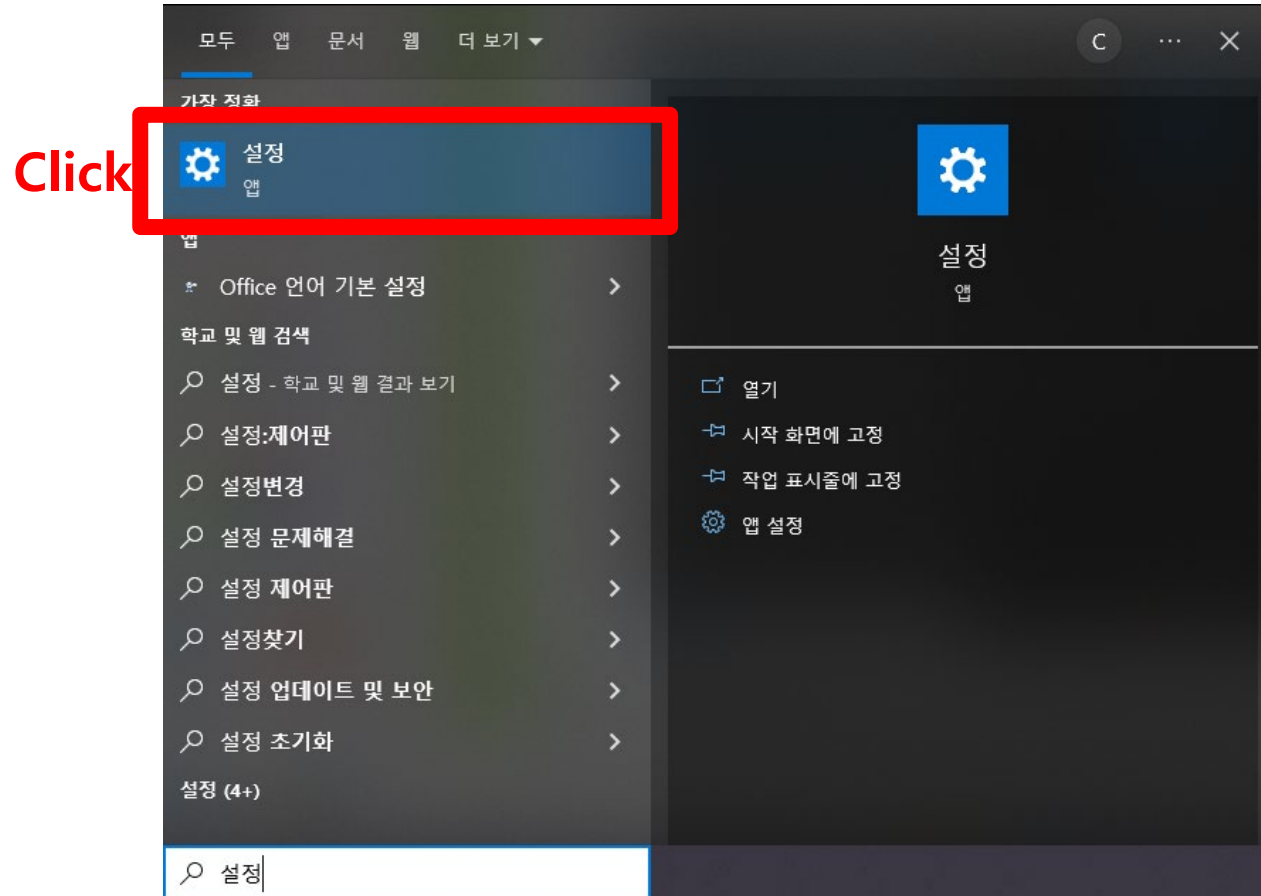

Operating System: Window10
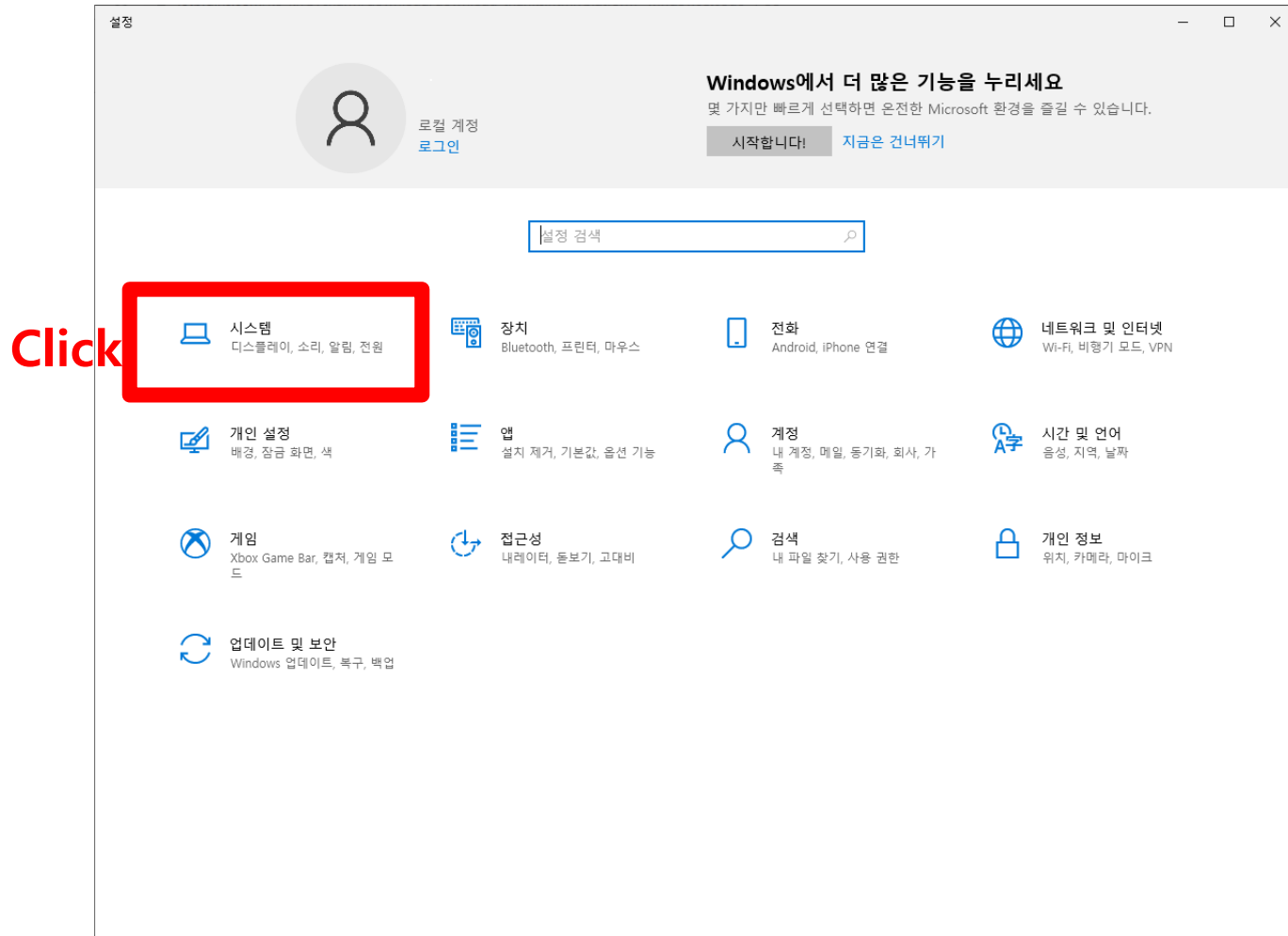
Architecture: x86, x64

PC

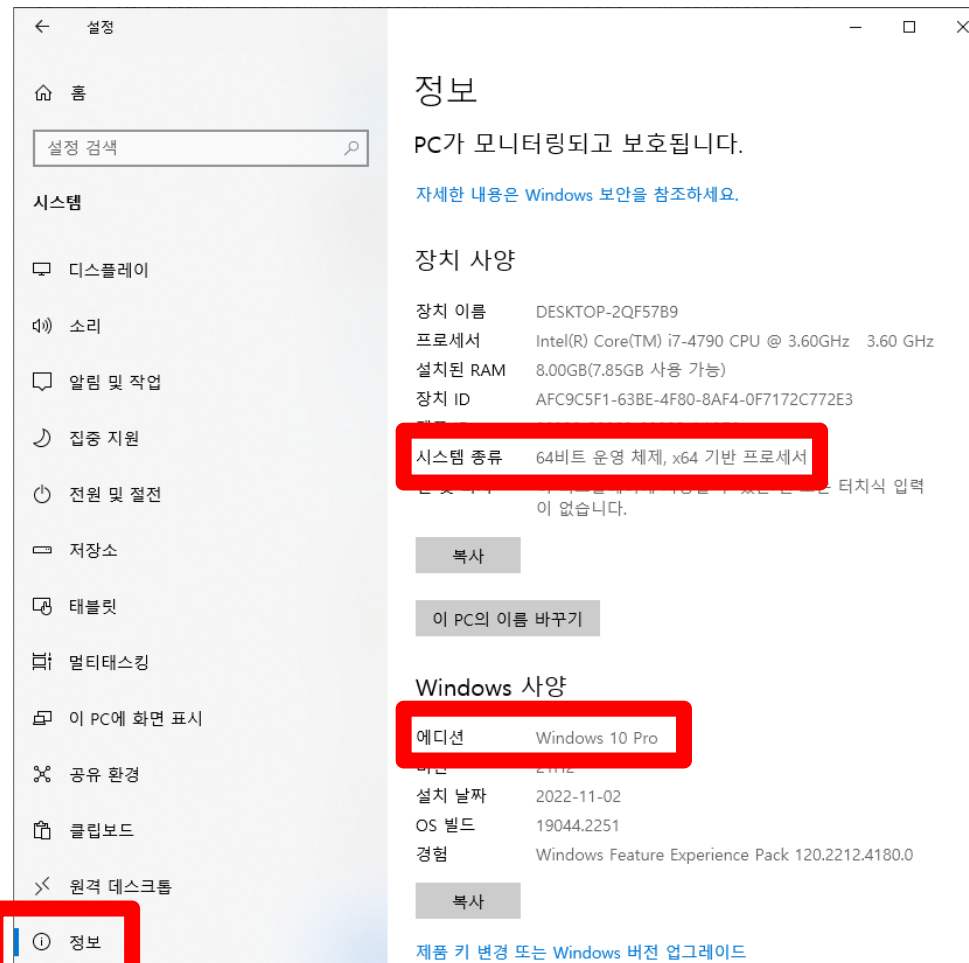- **Check your PC's hardware specifications**

PC

■ **Check your PC's hardware specifications**

Click
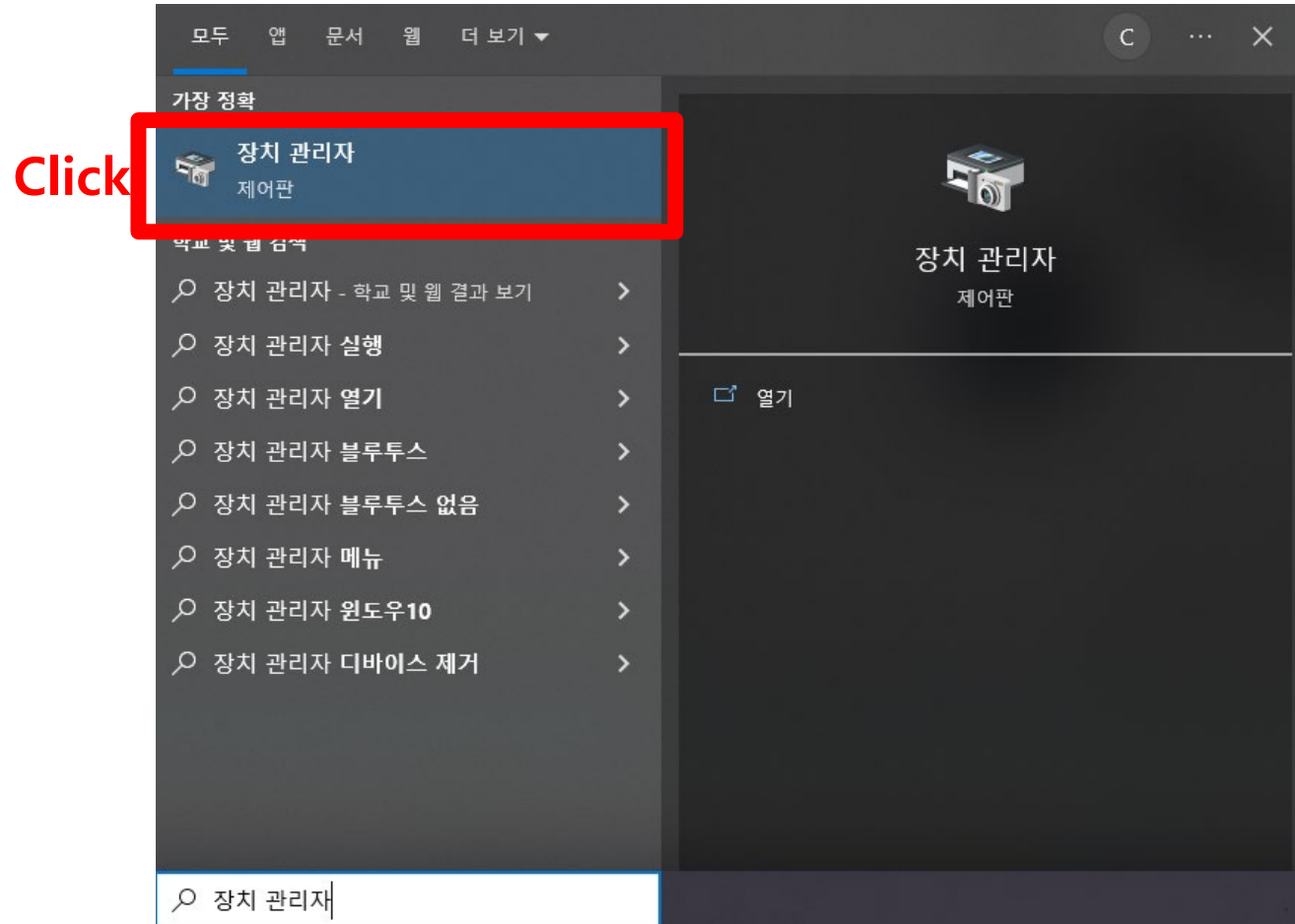
PC

■ Check your PC's hardware specifications

LiDAR

■ LiDAR

Connect the short wire to the PC

LiDAR

■ Verify Lidar Device Connection

Click

LiDAR

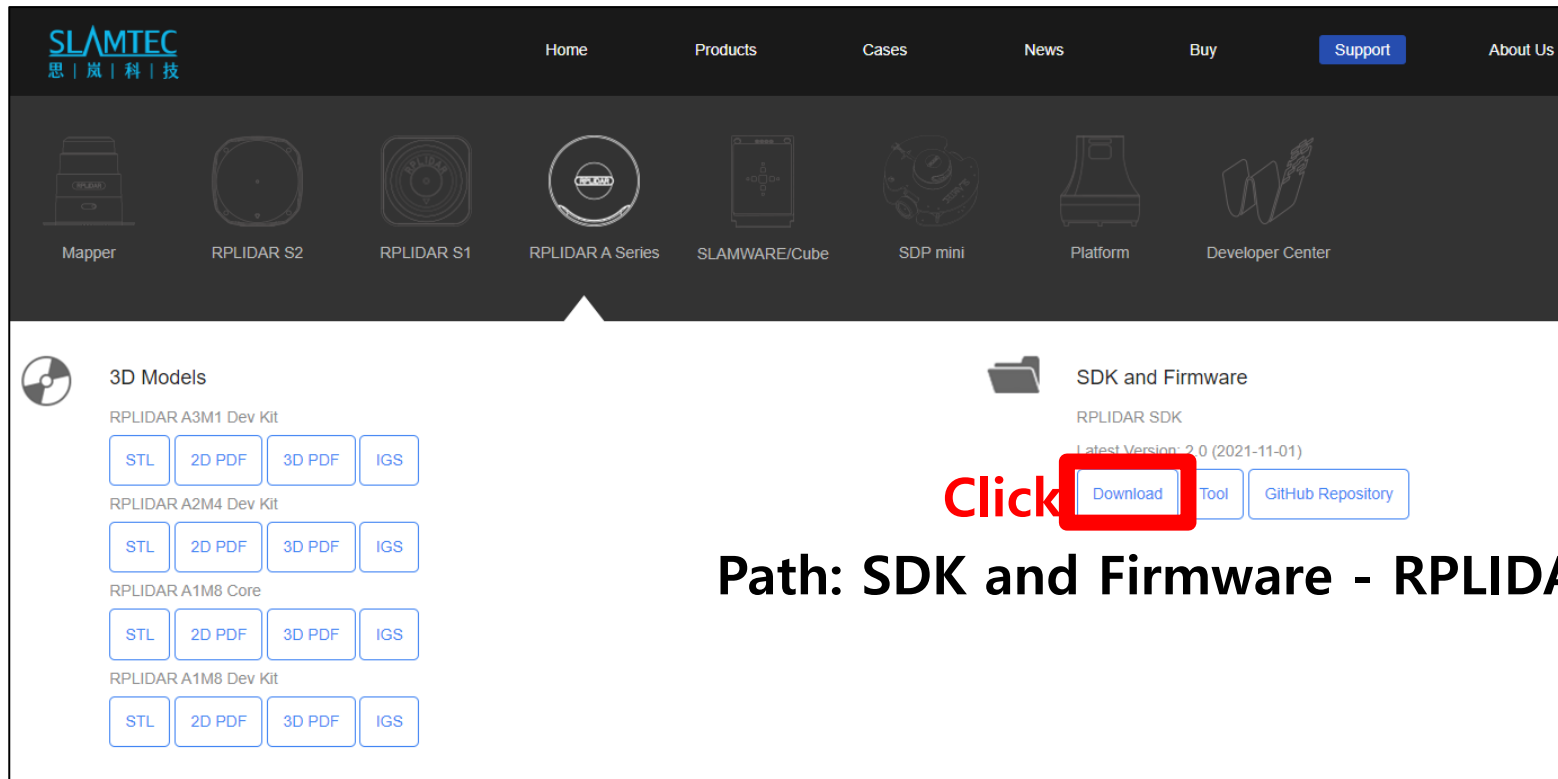## ■ Verify Lidar Device Connection

Other Device CP2102 USB Recognition Checks

If not recognized, check the lidar USB port connection

LiDAR

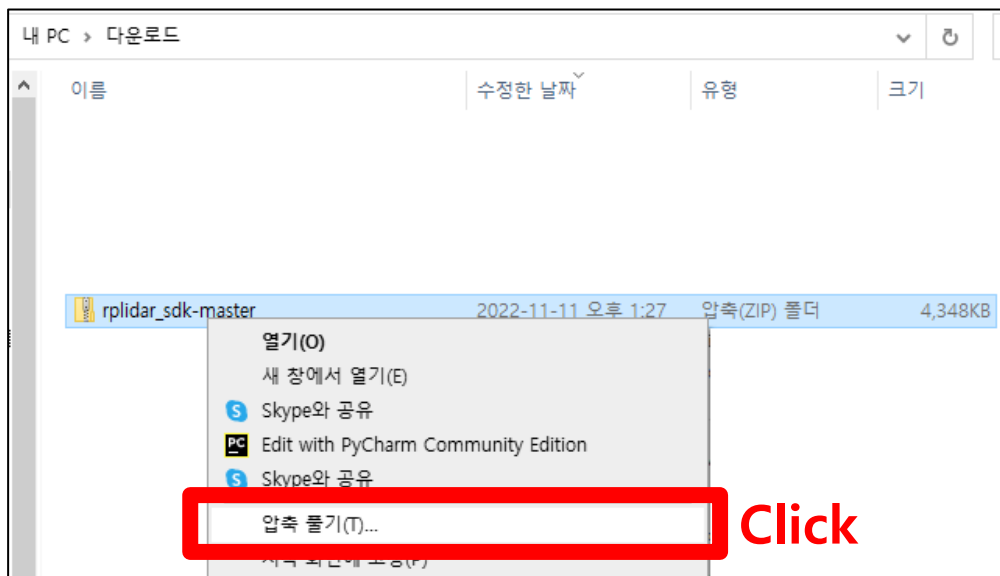## ■ Install LiDAR Driver

Download page:
https://www.slamtec.com/en/support#rplidar-a-series

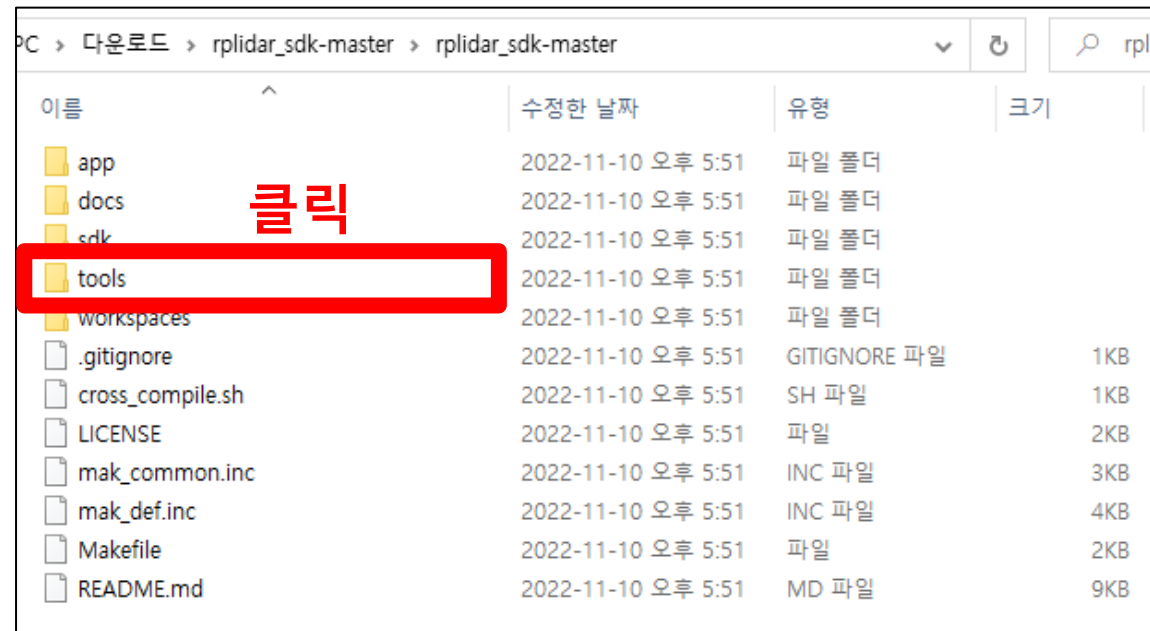**Path: SDK and Firmware - RPLIDAR SDK - Download**
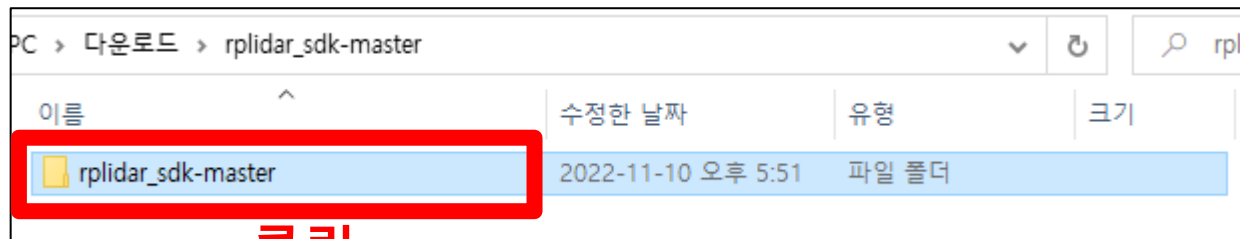
LiDAR
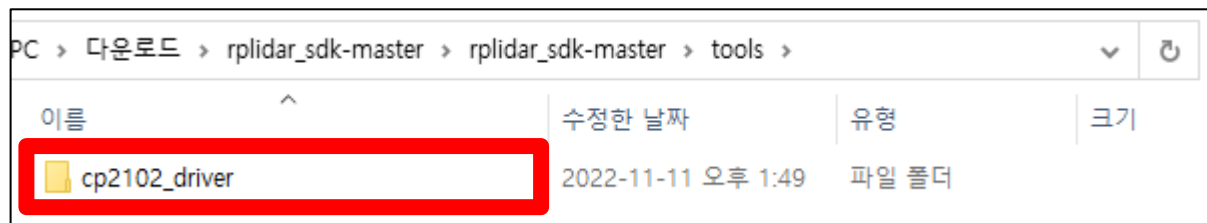
■ Install LiDAR Driver

LiDAR

■ Install LiDAR Driver
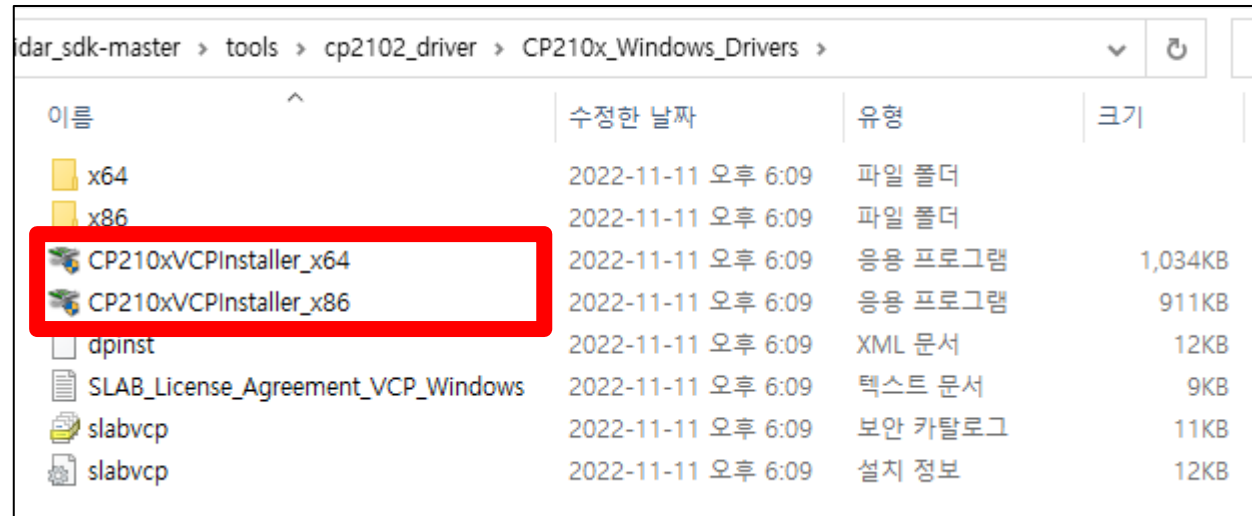
LiDAR

■ Install LiDAR Driver

Click

Click

LiDAR

■Install LiDAR Driver

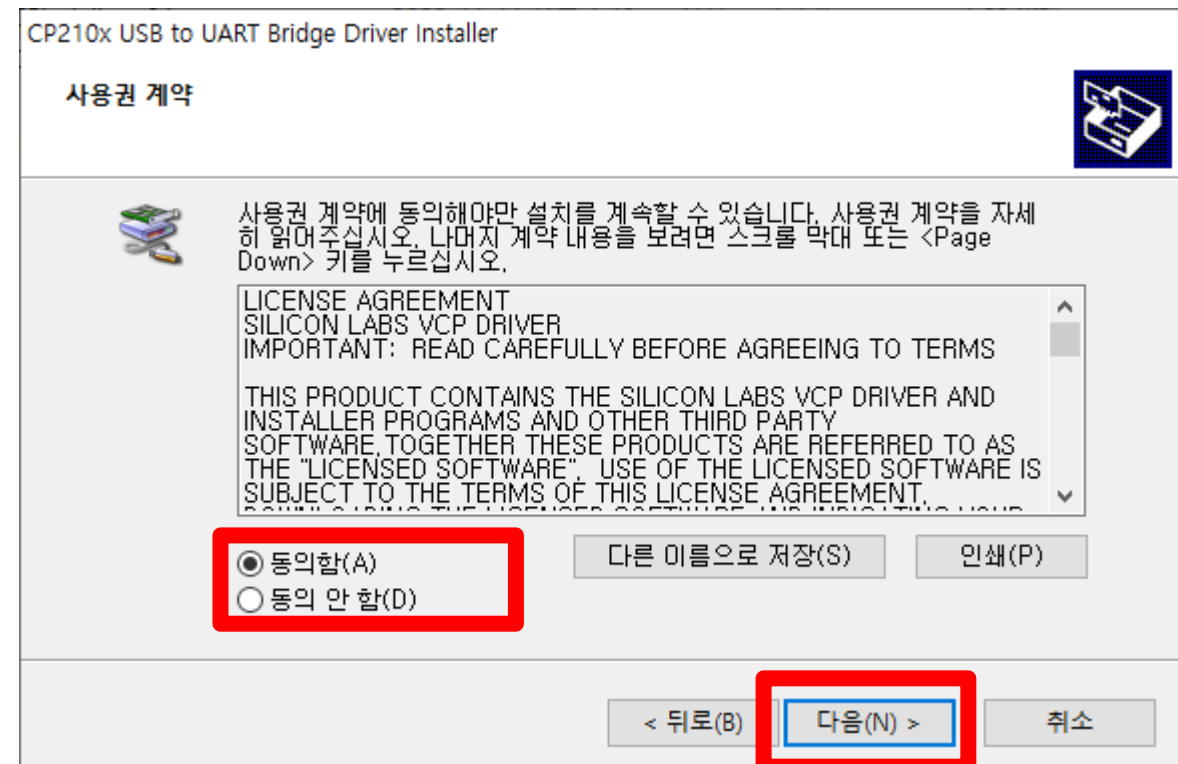**Run programs that meet your PC's specifications**

LiDAR

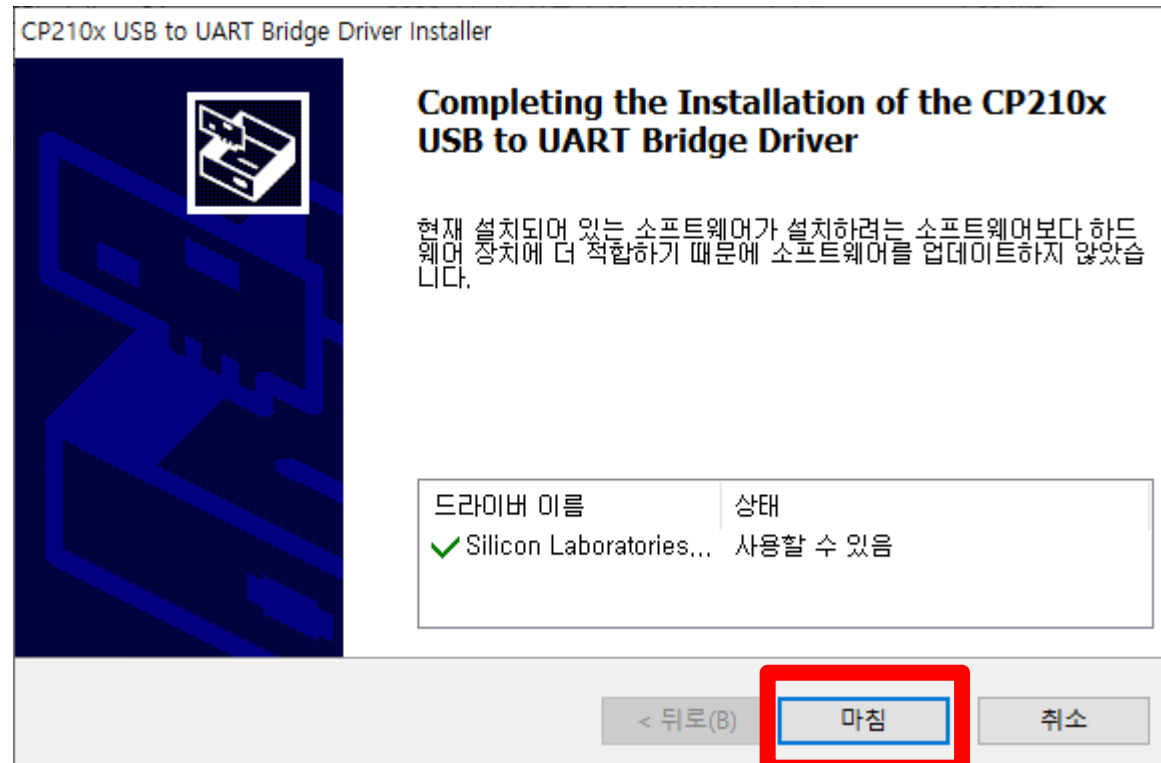## ■Install LiDAR Driver
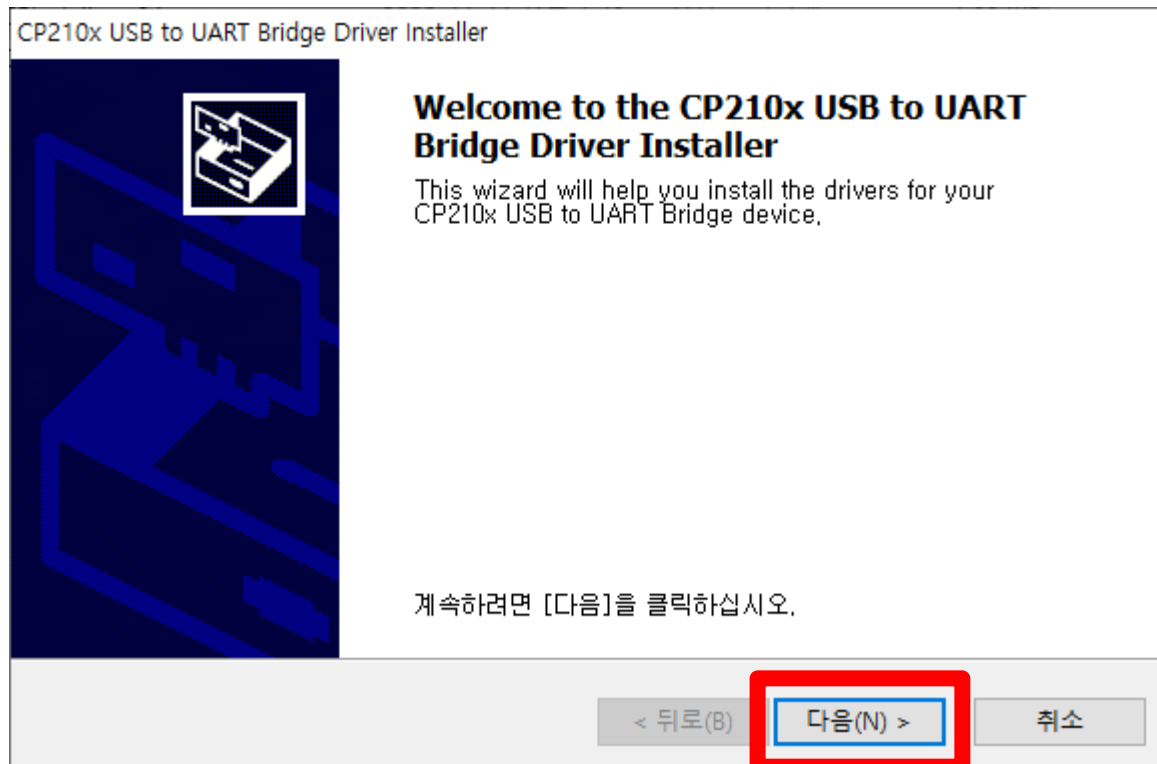
Click

Check Agree, then click Next
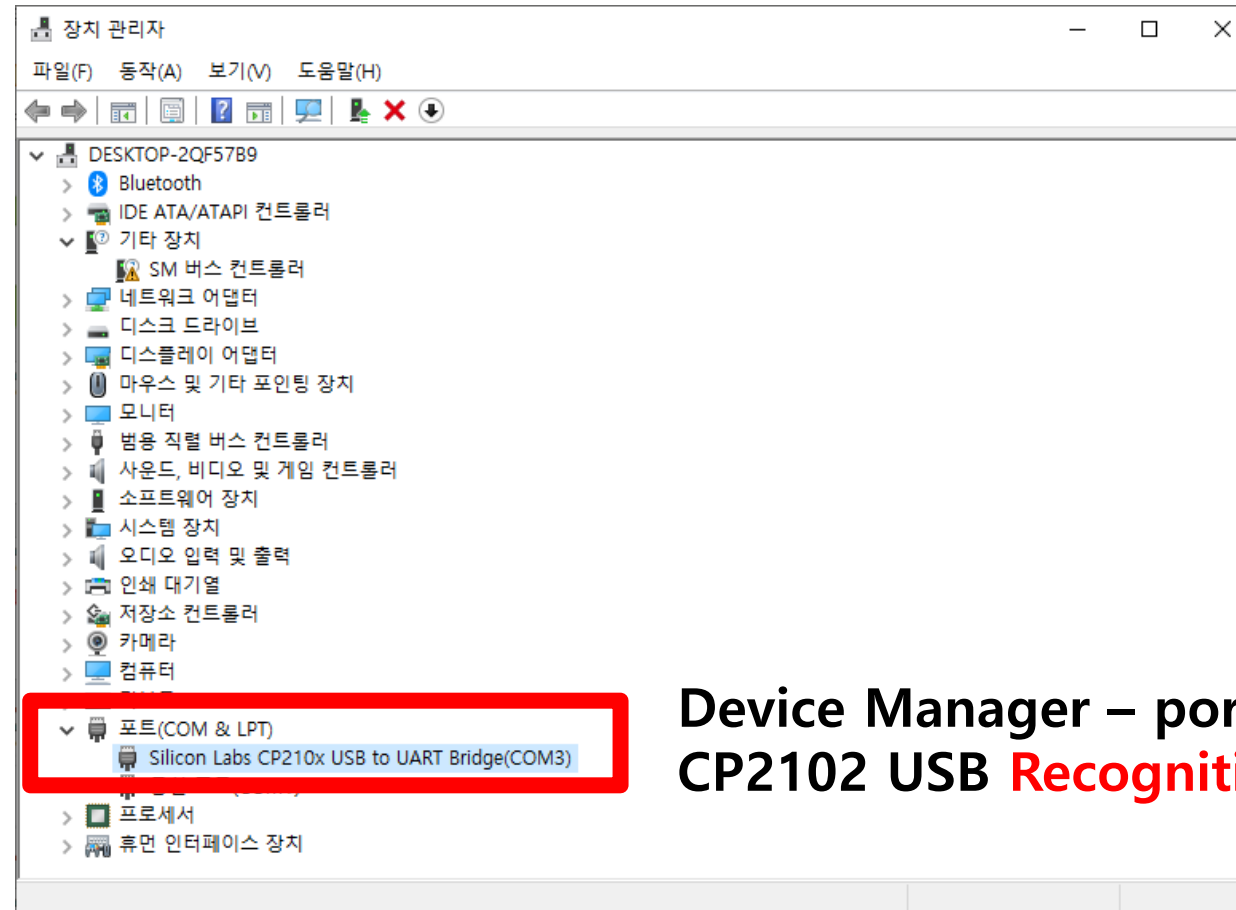
LiDAR

■Install LiDAR Driver

Click

LiDAR

■Install LiDAR Driver

Device Manager – port(COM & LPT)
CP2102 USB **Recognition check**

Arduino IDE

■ **Install Arduino IDE**

Download page:
https://www.arduino.cc/en/software

Arduino IDE 1.8.19
Version check

Click and Download

Arduino IDE

■Install Arduino IDE

Arduino IDE
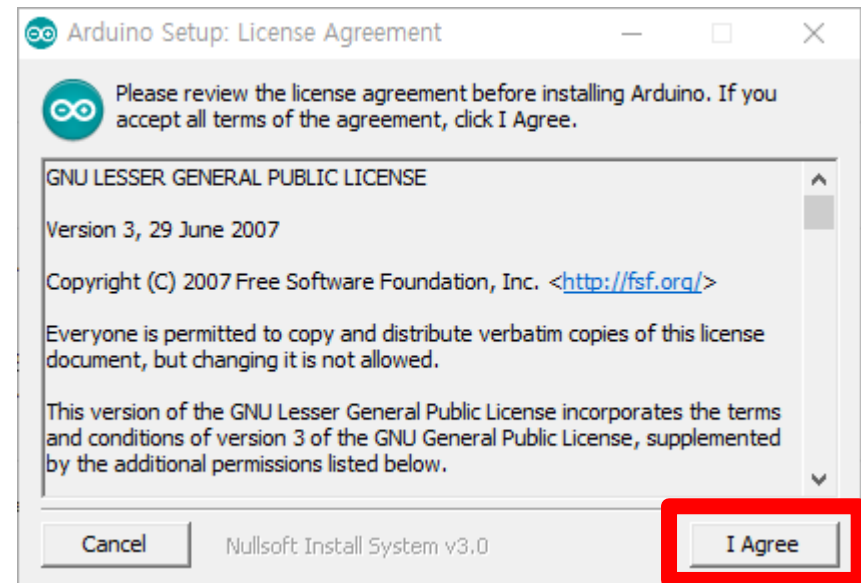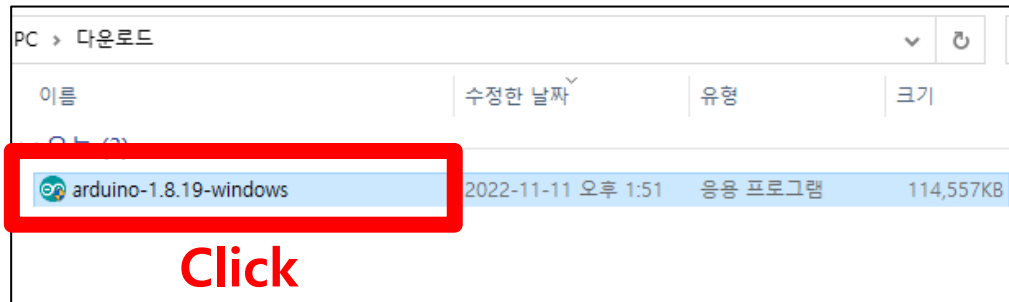
■ Install Arduino IDE
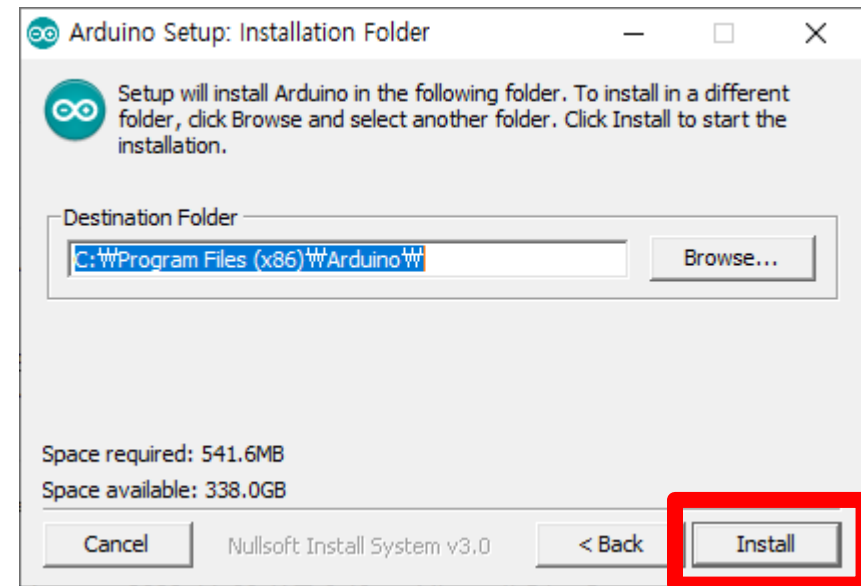
Click

Click

Automation Lab

Arduino IDE

■Install Arduino IDE

Check ALL

Click

Click

Arduino IDE

■Install Arduino IDE

Device Software Installation Notification Appearing, Install All

Arduino IDE

■Install Arduino IDE

Device Software Installation Notification Appearing, Install All

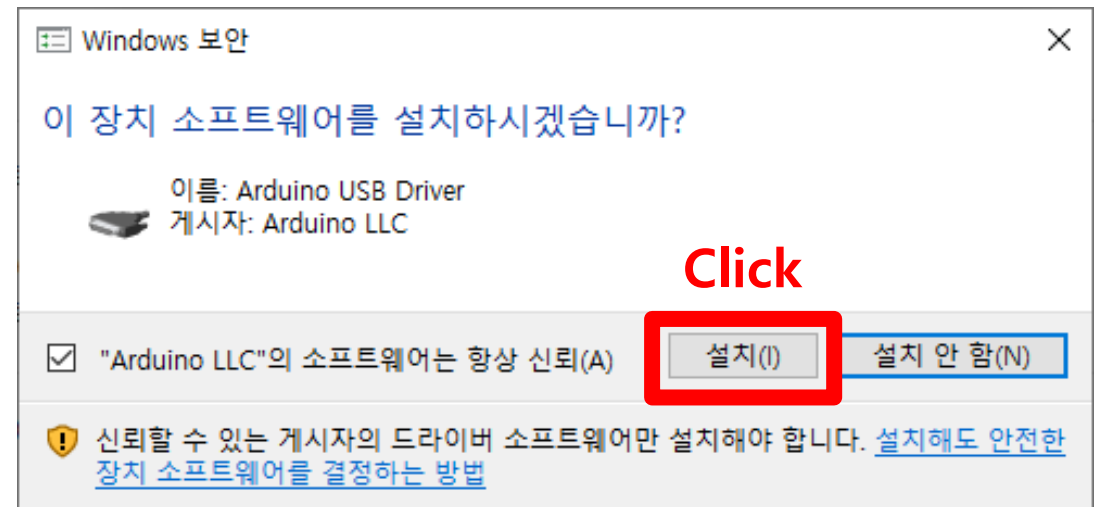# Arduino IDE

■Install Arduino IDE
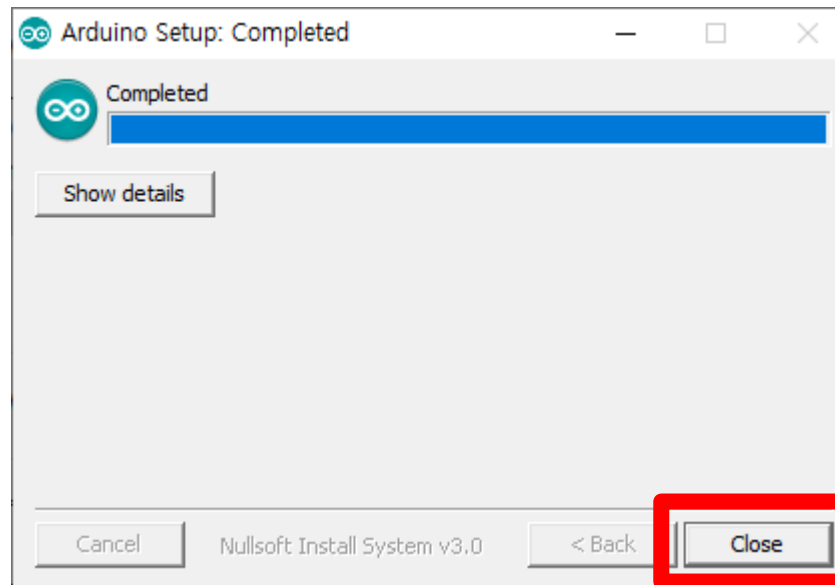
Click

Arduino IDE

■Install Arduino IDE

Run Arduino
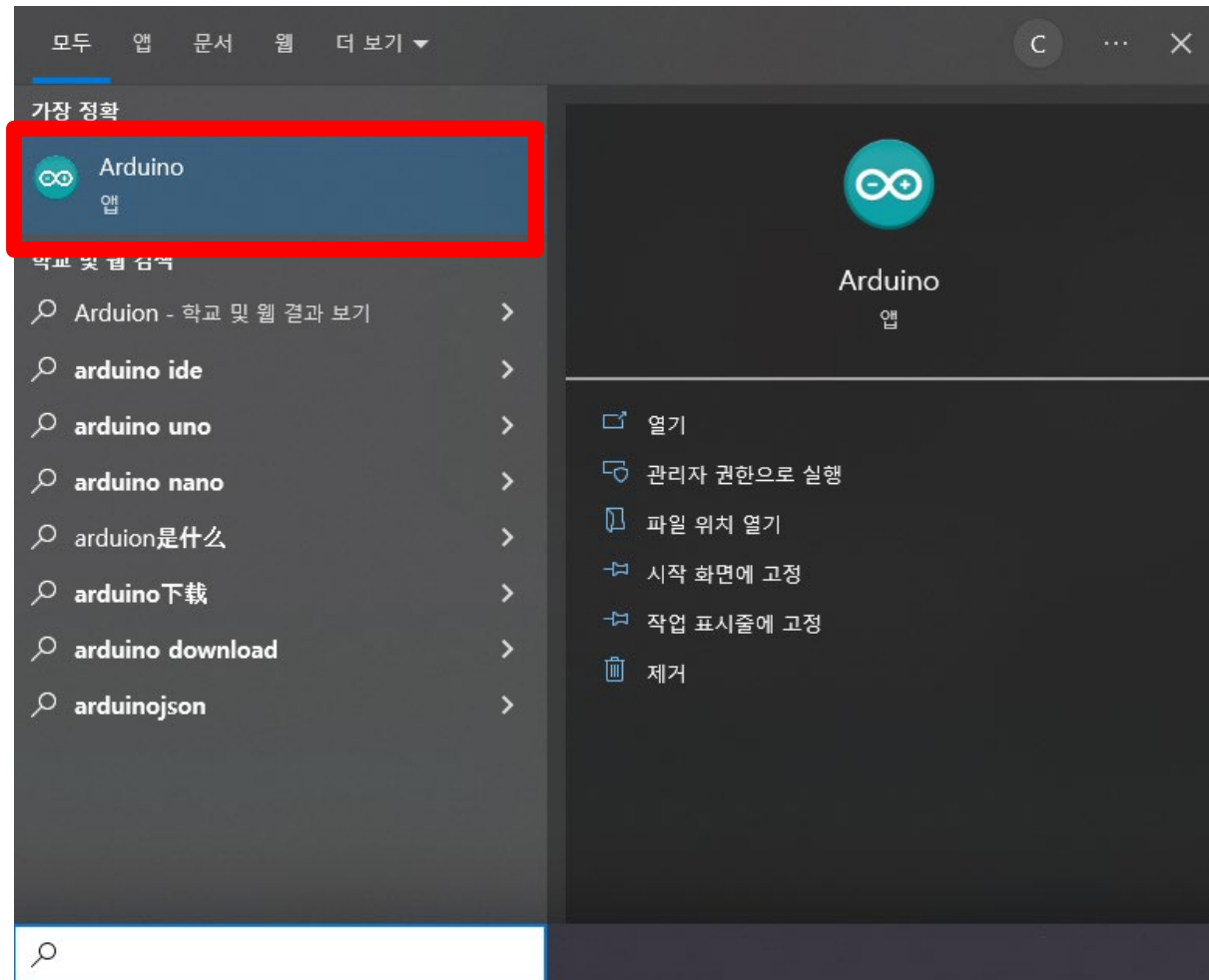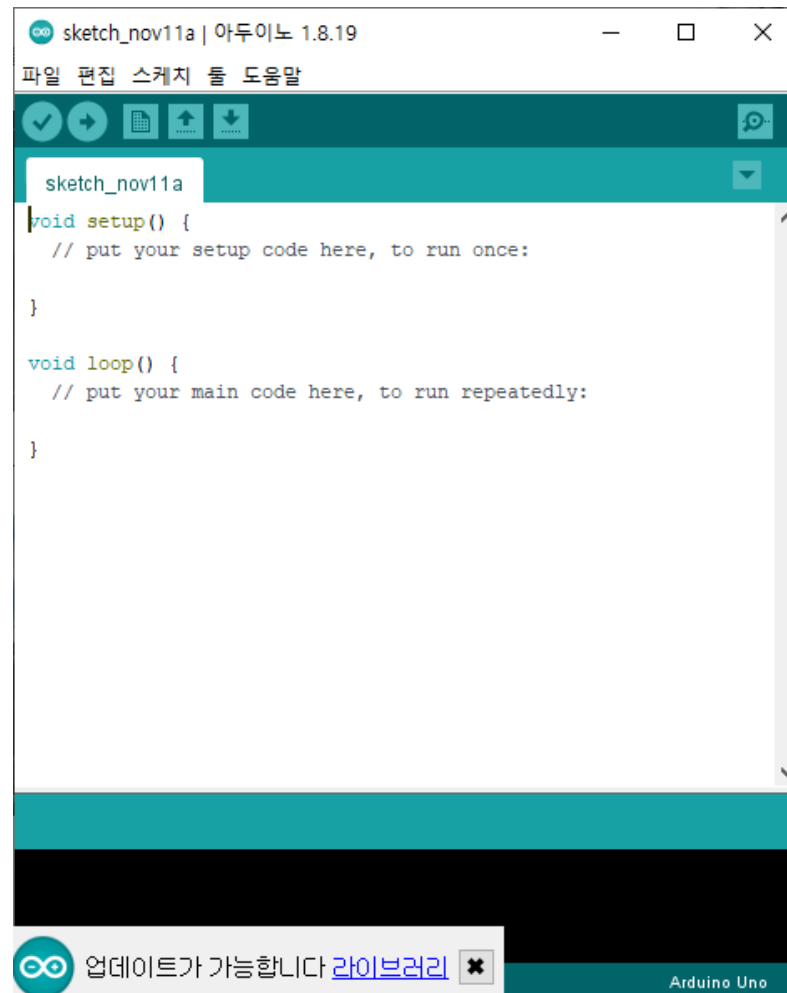
Arduino IDE

■Install Arduino IDE

Private Network Check

Click

Arduino IDE

■Arduino IDE Initial screen

Python

■Install Python

Download Page:
https://www.python.org/downloads/

Choose version and download

Python

■Install Python

Download Page:
https://www.python.org/downloads/

Release version	Release date		Click for more
Python 3.7.14	Sept. 6, 2022	⬇ Download	Release Notes
Python 3.8.14	Sept. 6, 2022	⬇ Download	Release Notes
Python 3.9.14	Sept. 6, 2022	⬇ Download	Release Notes
Python 3.10.7	Sept. 6, 2022	⬇ Download	Release Notes
Python 3.10.6	Aug. 2, 2022	⬇ Download	Release Notes
Python 3.10.5	June 6, 2022	⬇ Download	Release Notes
Python 3.9.13	May 17, 2022	⬇ Download	Release Notes
Python 3.10.4	March 24, 2022	⬇ Download	Release Notes

View older releases

Version 3.9.13 Click Download

Python

■ Install Python

Check the "Files"

Python

■Install Python

Select your PC hardware specifications (64-bit, 32-bit)
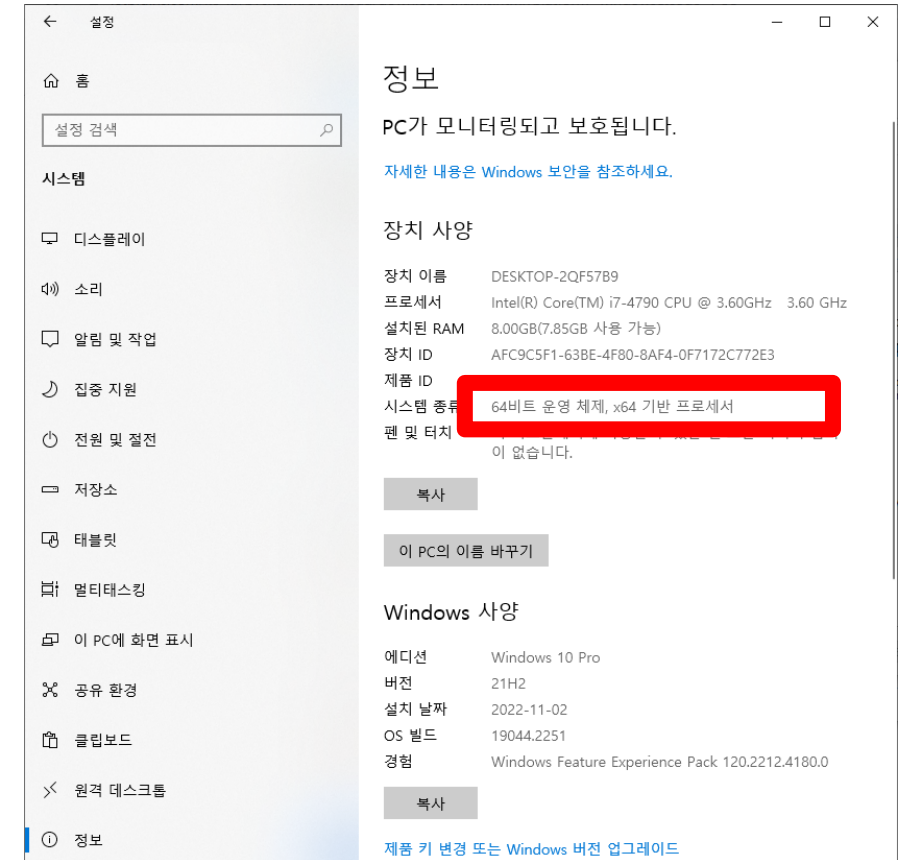
Hardware Specifications
Check out the first part of this document (page 5)

Python

■ Install Python

Click

python-3.9.13-amd64
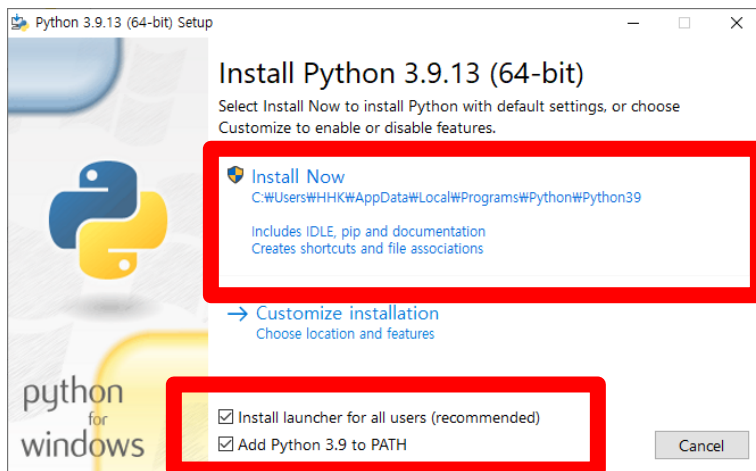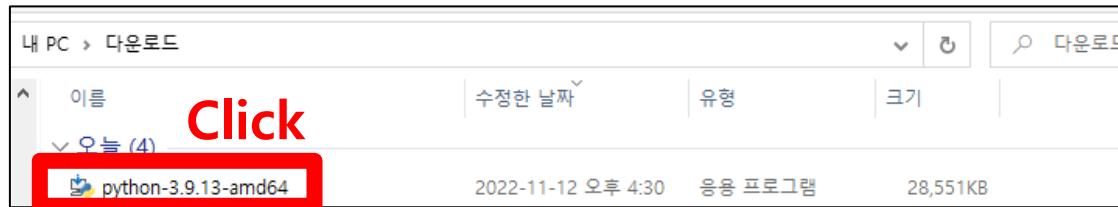
Click

If both checkboxes are enabled
Check both
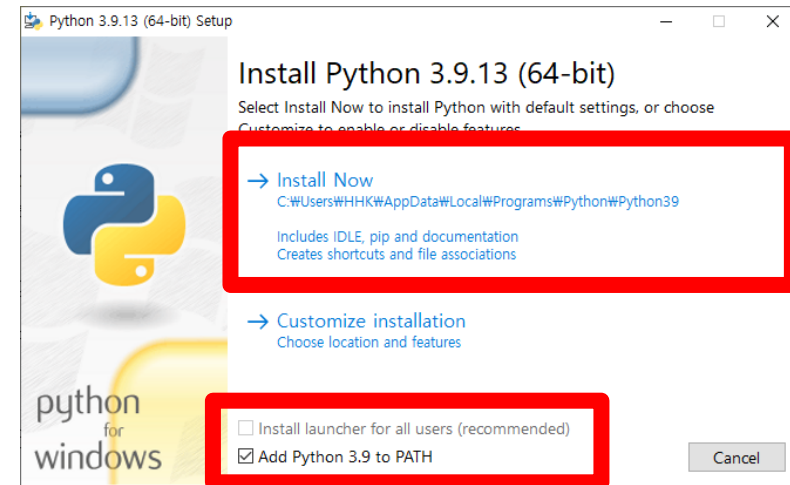
Click

If only one is active
Check only the following

Python

■Install Python
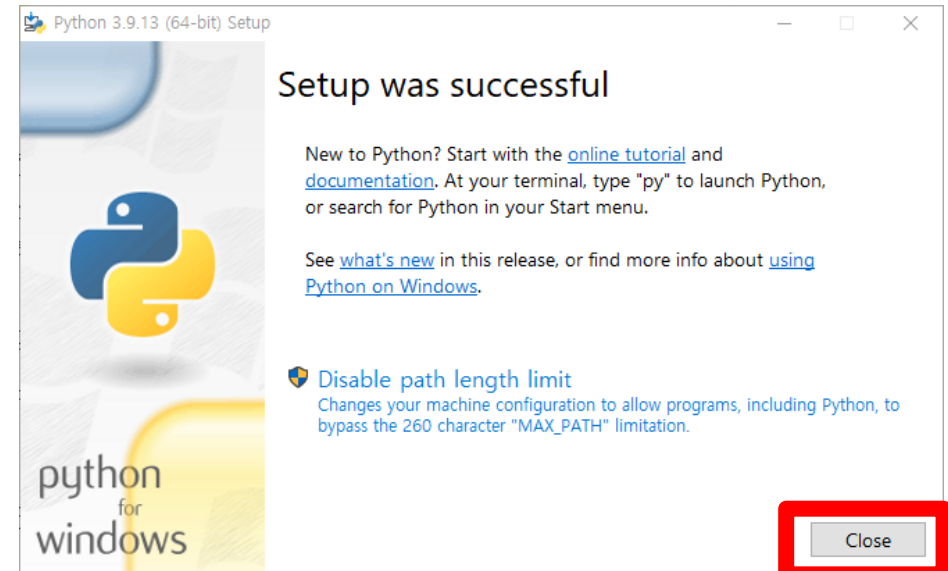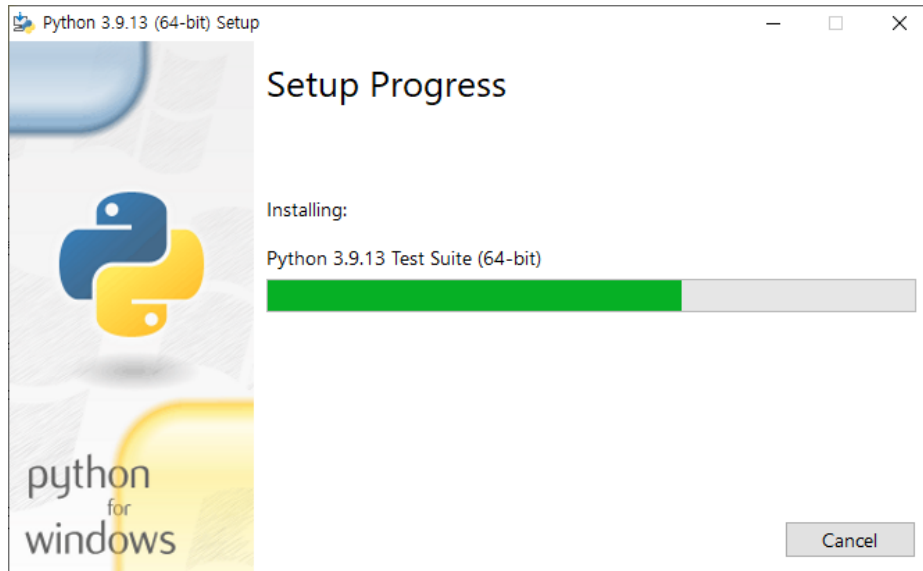
Click

Python

■Install Python
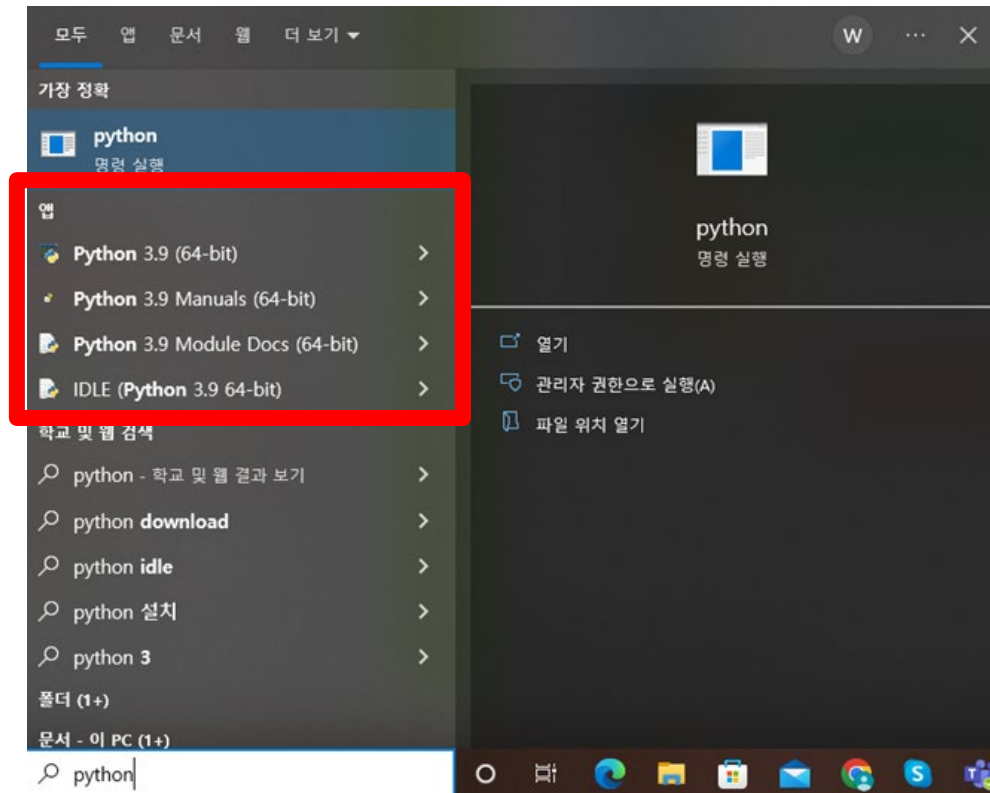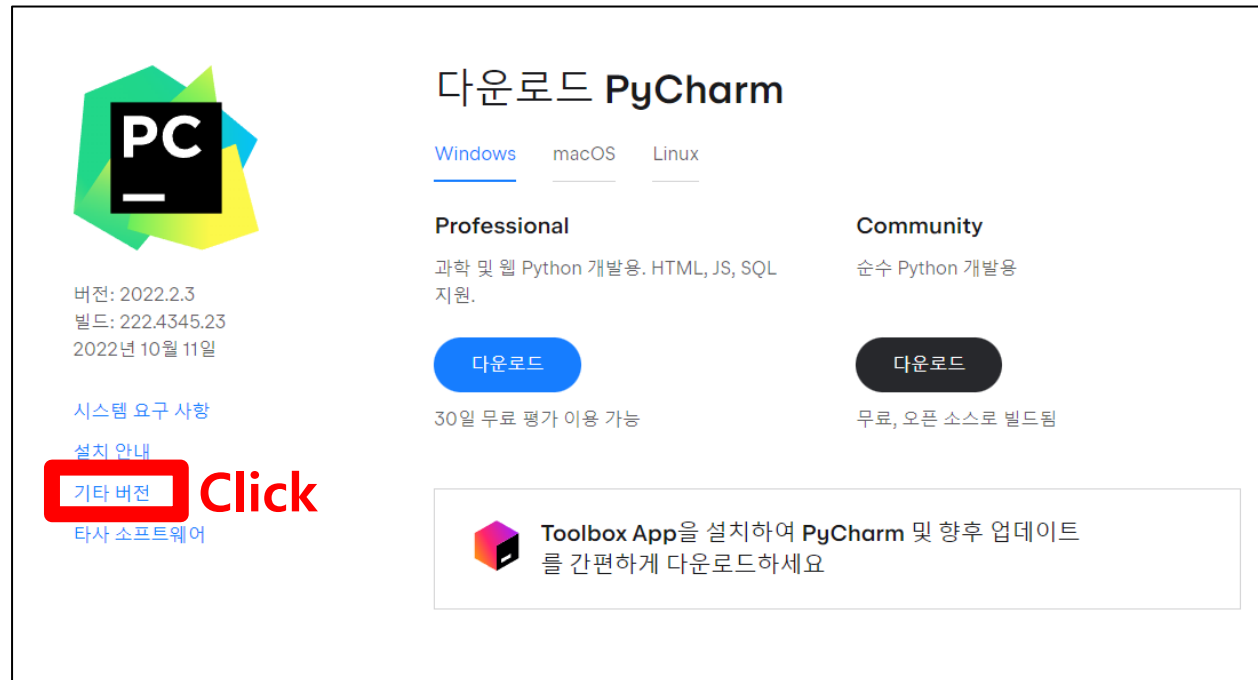
After searching for Python
Make sure the installation is complete

PyCharm

■ Install PyCharm

Download Page:
https://www.jetbrains.com/ko-kr/pycharm/download/#section=windows

PyCharm

■Install PyCharm

PyCharm

■Install PyCharm

Click

PC › 다운로드			
이름	수정한 날짜	유형	크기
pycharm-community-2022.1.4	2022-11-12 오후 6:03	응용 프로그램	387,723KB

PyCharm Community Edition Setup

Welcome to PyCharm Community Edition Setup

Setup will guide you through the installation of PyCharm Community Edition.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Click

Next >   Cancel

PyCharm

■ Install PyCharm

Choose a PyCharm path

Click

Check the checkbox

Click

PyCharm

■ Install PyCharm

PyCharm

■Interpreter setting

Run PyCharm

PyCharm

■Interpreter setting

Import PyCharm Settings

○ Config or installation directory

● Do not import settings
① Check
OK ②Click

PyCharm User Agreement

JETBRAINS COMMUNITY EDITION TERMS

IMPORTANT! READ CAREFULLY:

THESE TERMS APPLY TO THE JETBRAINS INTEGRATED DEVELOPMENT ENVIRONMENT TOOLS CALLED 'INTELLIJ IDEA COMMUNITY EDITION' AND 'PYCHARM COMMUNITY EDITION' (SUCH TOOLS, "COMMUNITY EDITION" PRODUCTS) WHICH CONSIST OF 1) OPEN SOURCE SOFTWARE SUBJECT TO THE APACHE 2.0 LICENSE (AVAILABLE HERE: https://www.apache.org/licenses/LICENSE-2.0), AND 2) JETBRAINS PROPRIETARY SOFTWARE PLUGINS PROVIDED IN FREE-OF-CHARGE VERSIONS WHICH ARE SUBJECT TO TERMS DETAILED HERE: https://www.jetbrains.com/legal/community-bundled-plugins.
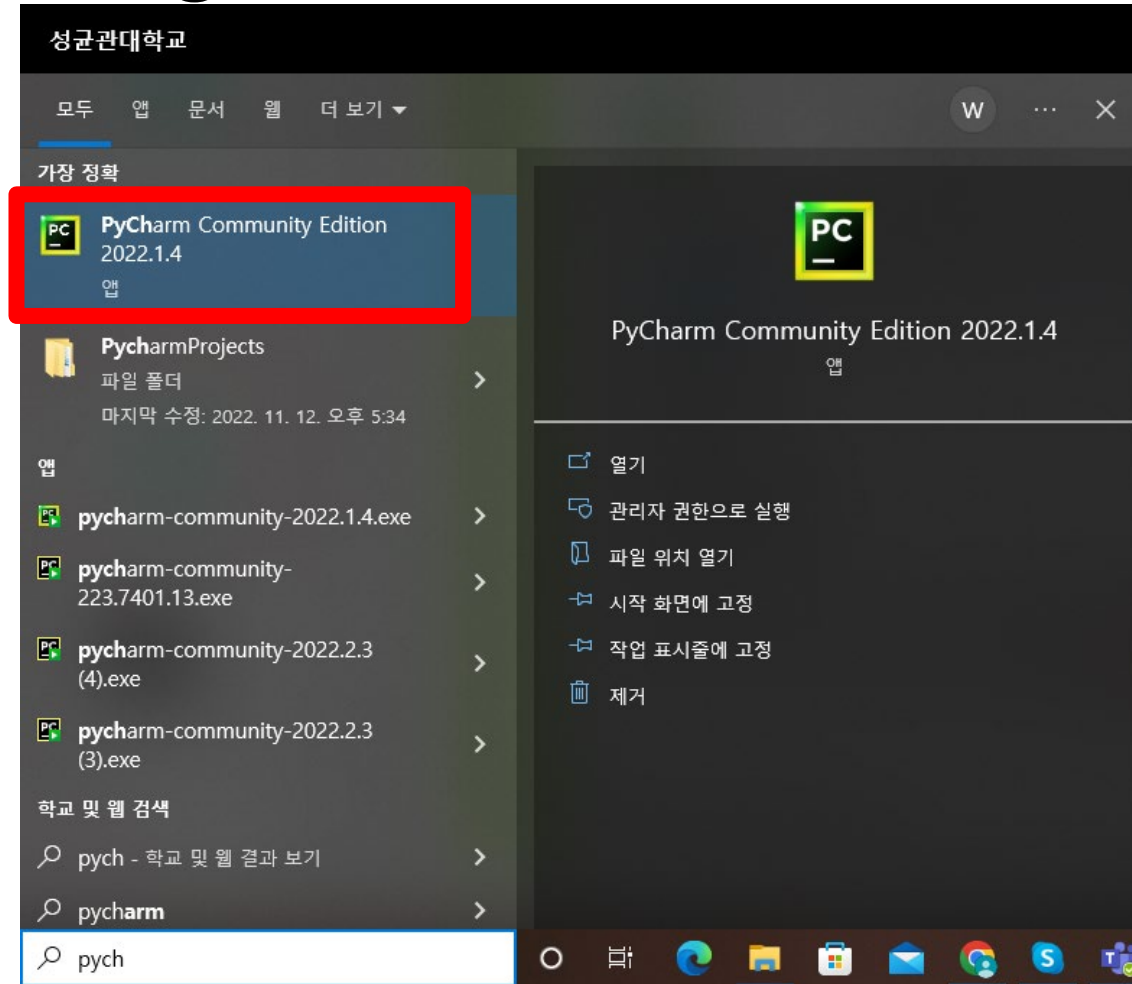
"JetBrains" or "we" means JetBrains s.r.o., with its principal place of business at Na Hrebenech II 1718/10, Prague, 14000, Czech Republic, registered in the Commercial Register maintained by the Municipal Court of Prague, Section C, File 86211, ID No.: 265 02 275.

①Check
☐ I confirm that I have read and accept the terms of this User Agreement
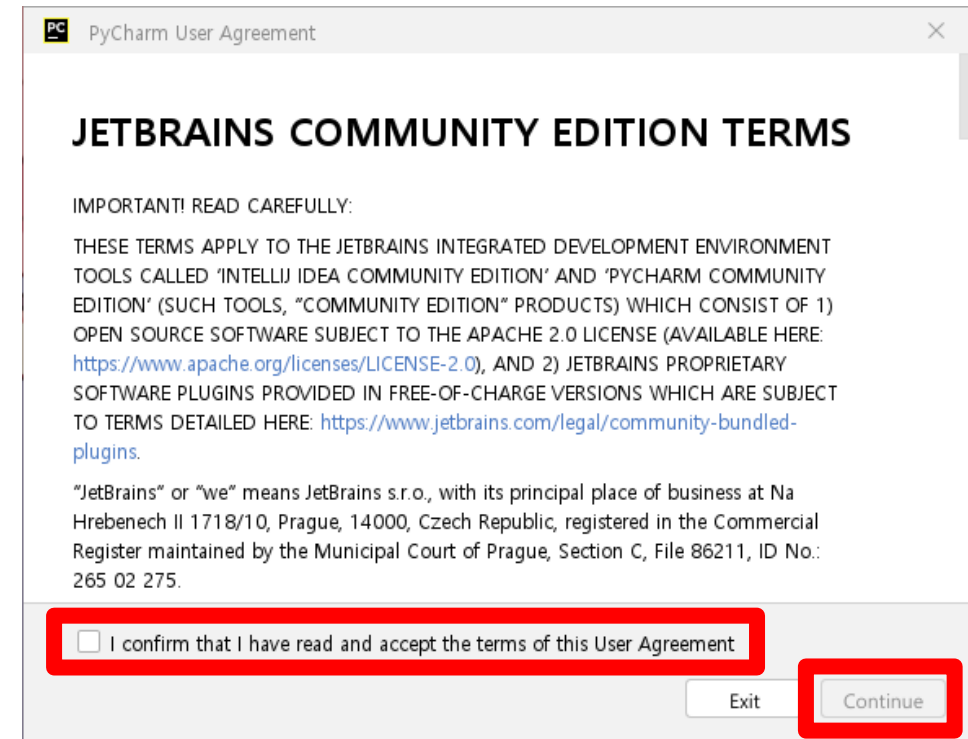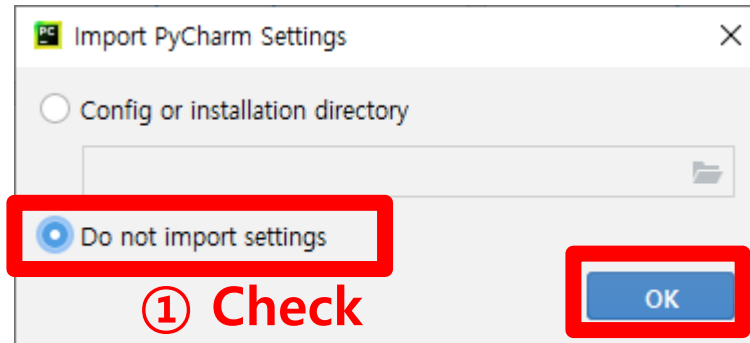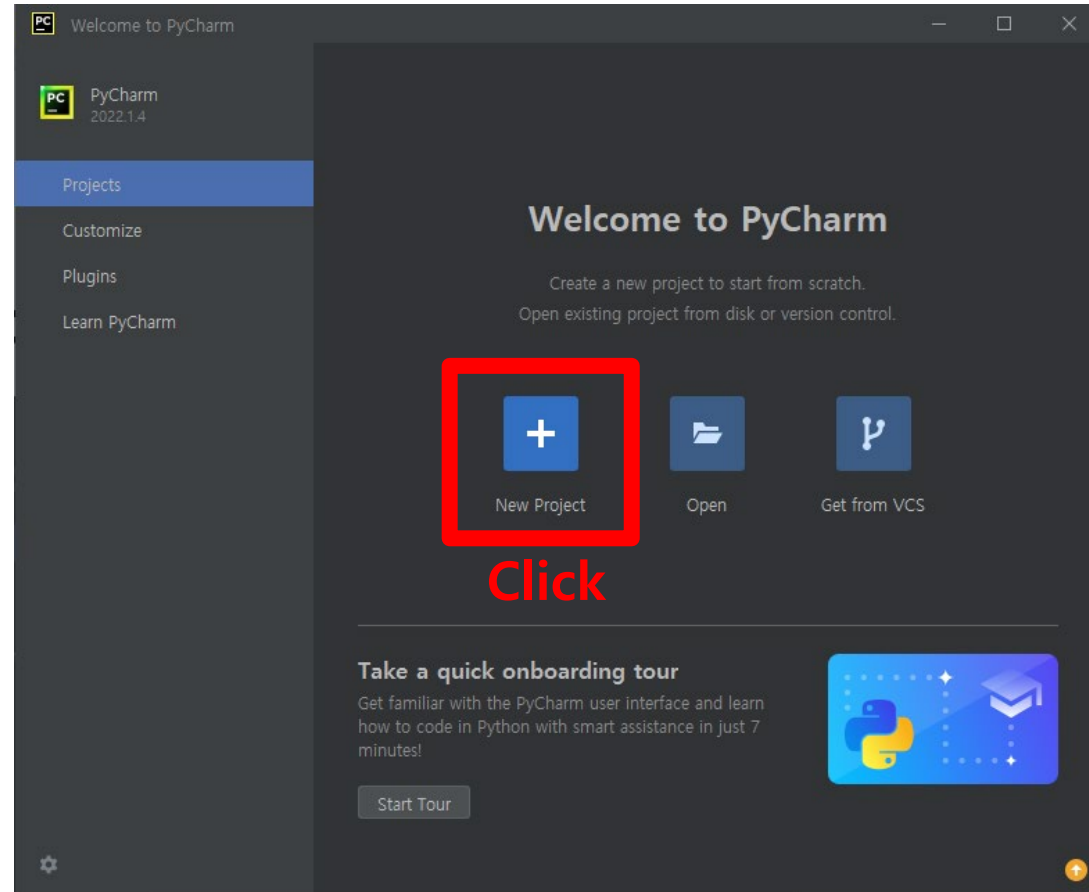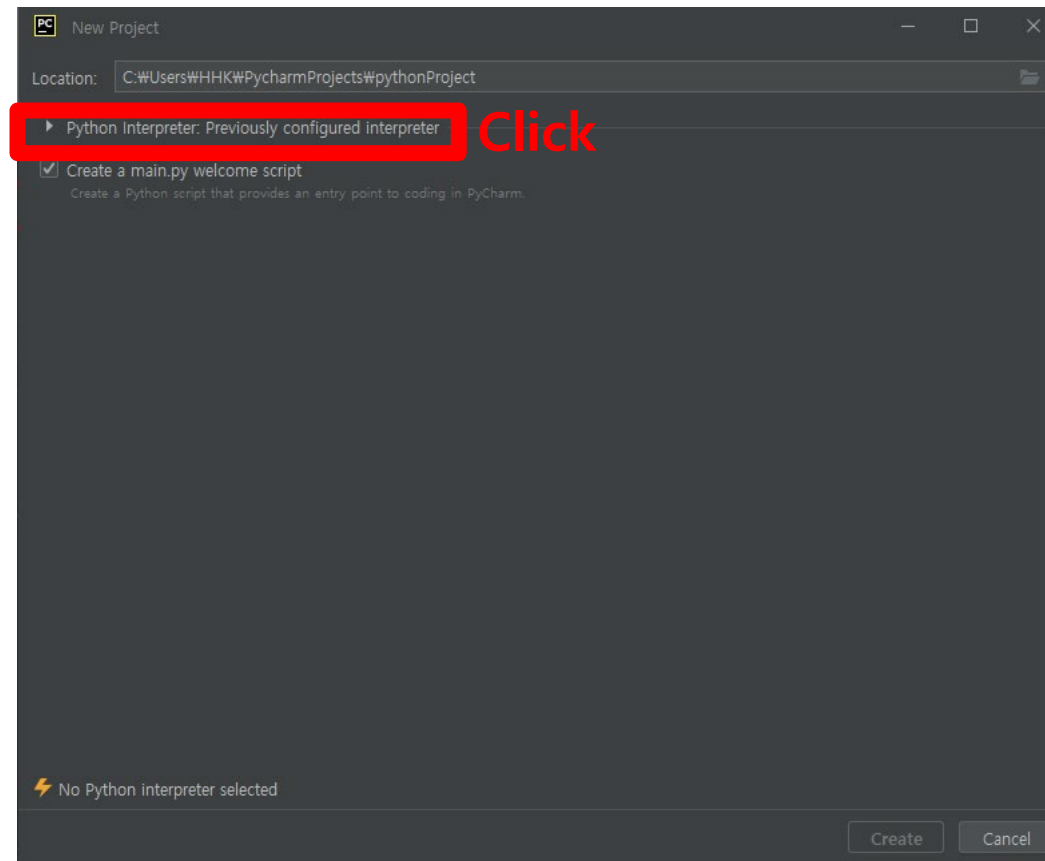
Exit   Continue

②Click

PyCharm

■Interpreter setting

PyCharm

■Interpreter setting

PyCharm

■Interpreter setting

① **Locate Project Files Folders (Keep Initial Value)**

② **check**

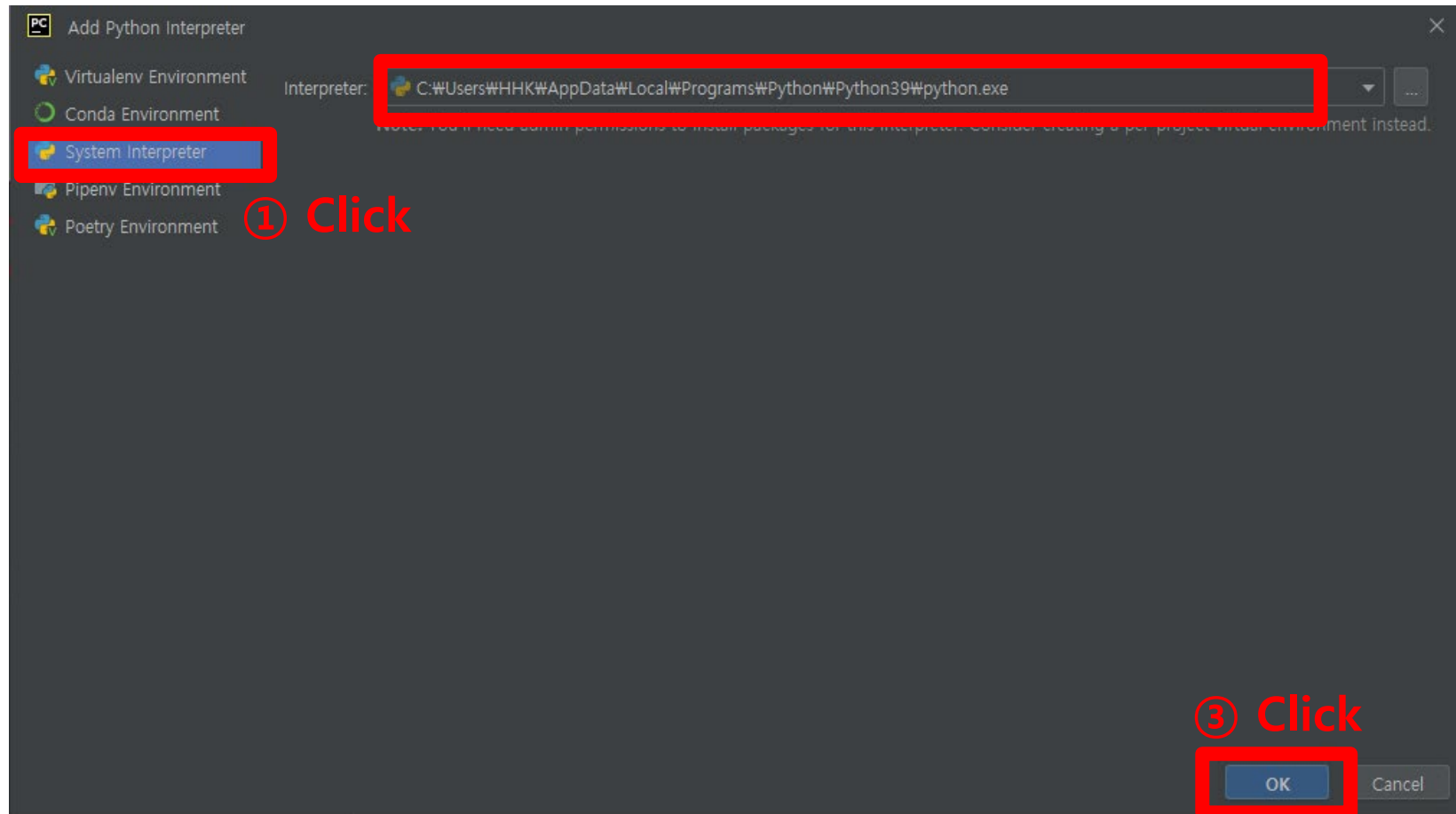③ **Add Interpreter ->Add Local Interpreter클릭**

③**-1 If it pops up like this Click the ... to proceed**

PyCharm

■Interpreter setting

② **Interpreter check**

① **Click**

③ **Click**
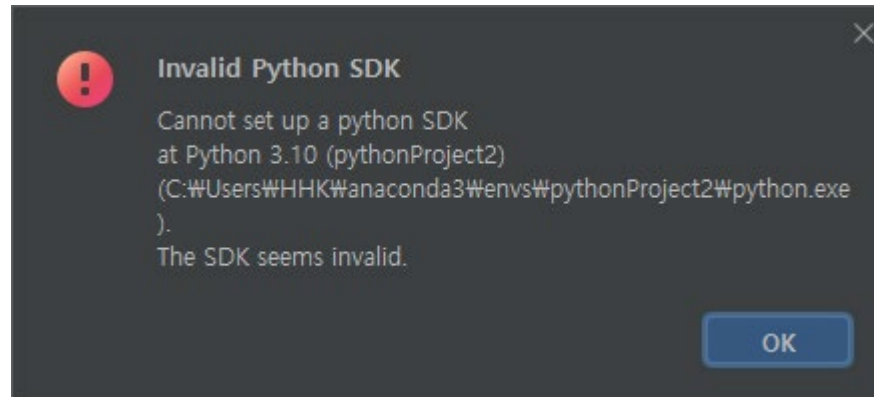
If you don't have an Interpreter,
Python not installed
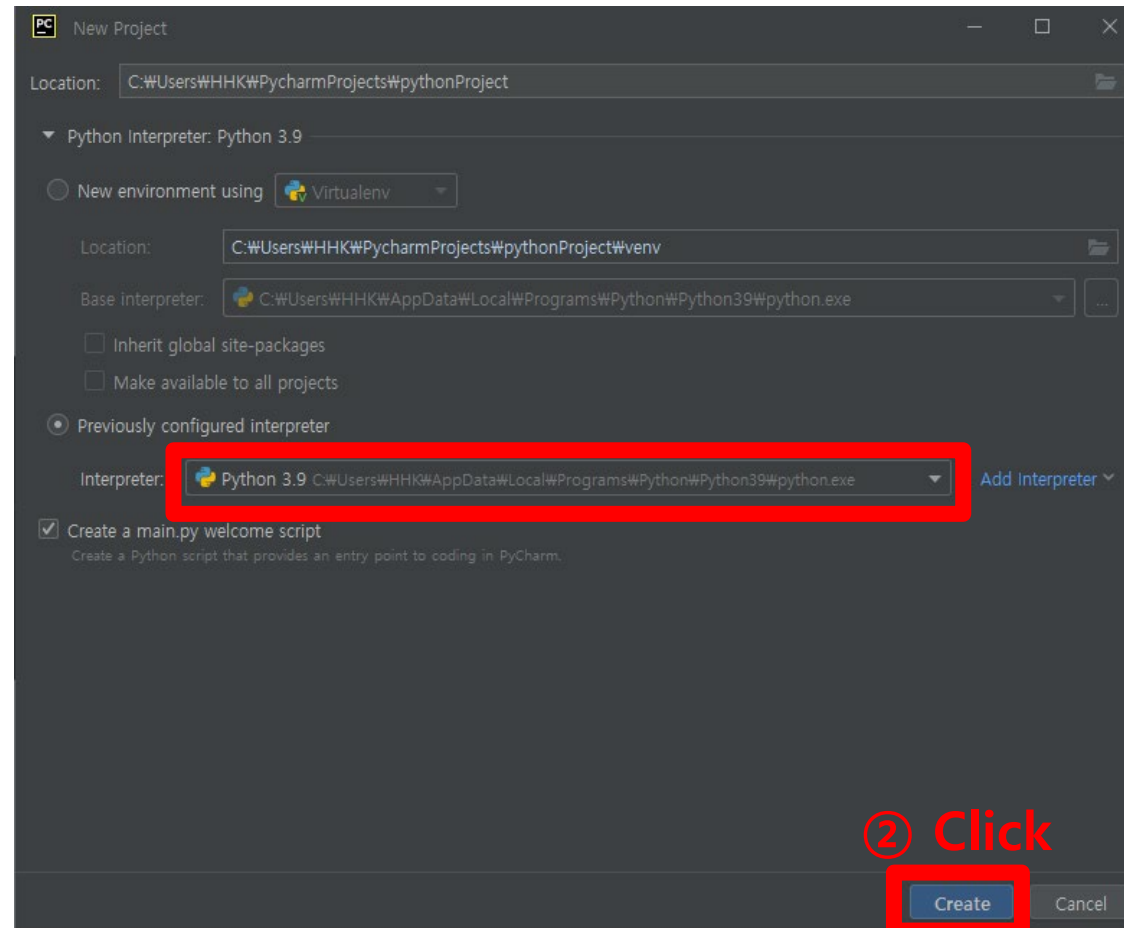Requires Python reinstallation

PyCharm

■Interpreter setting

When you encounter the following error:
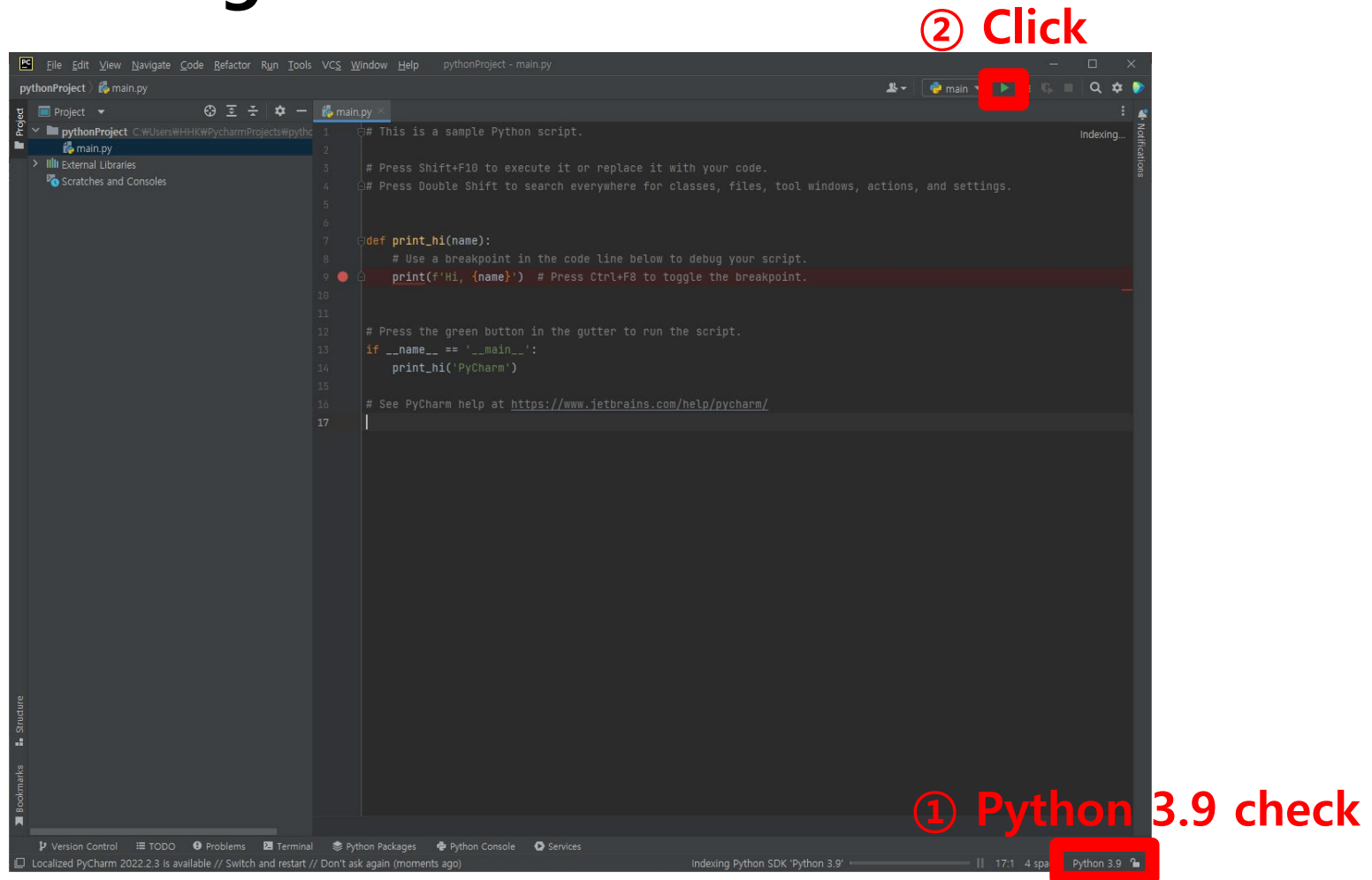Reinstall to 2022.1.4 version

PyCharm

■Interpreter setting

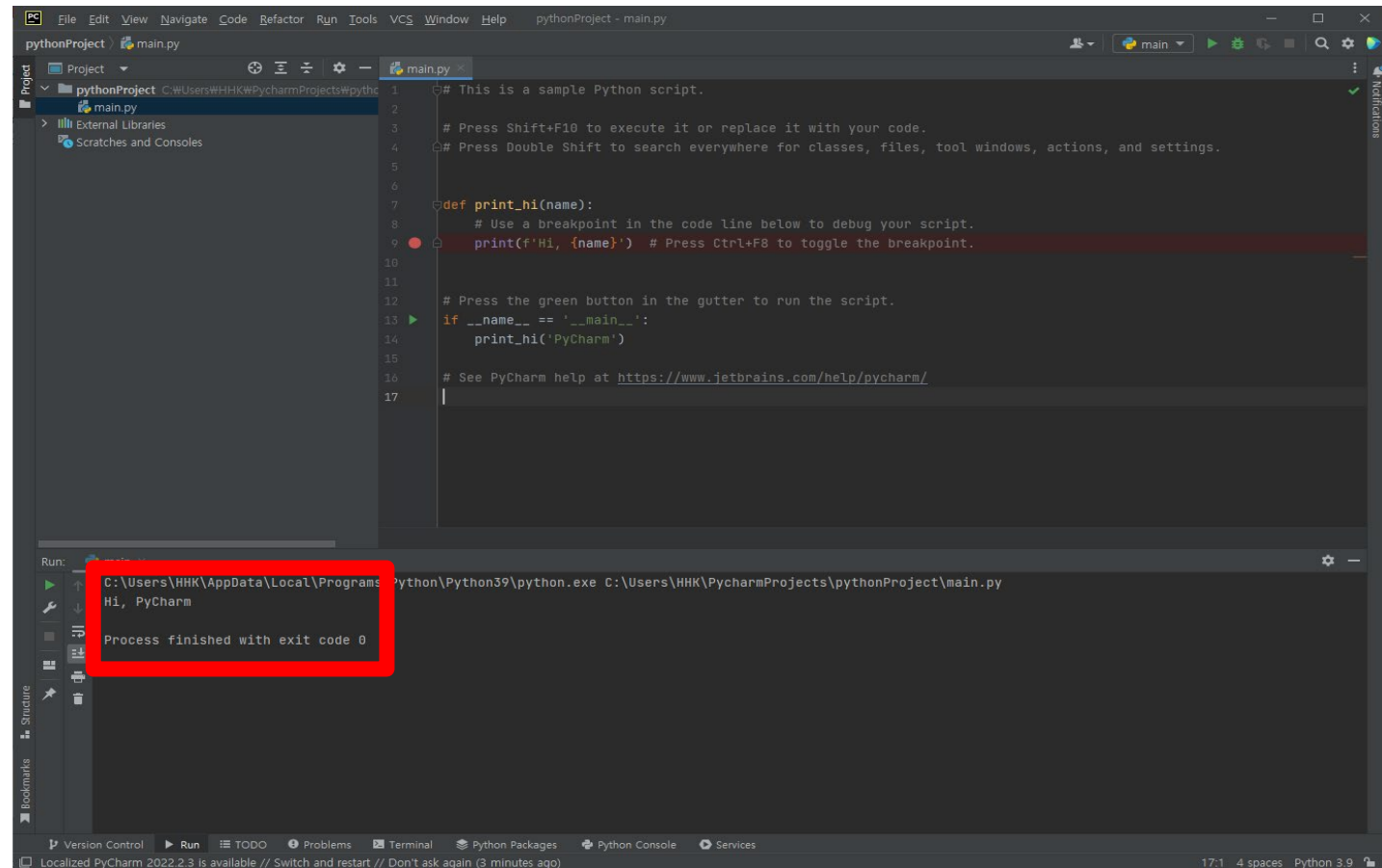① **interpreter check (Python 3.9)**

② **Click**

PyCharm

■Interpreter setting

② **Click**

① **Python 3.9 check**

PyCharm
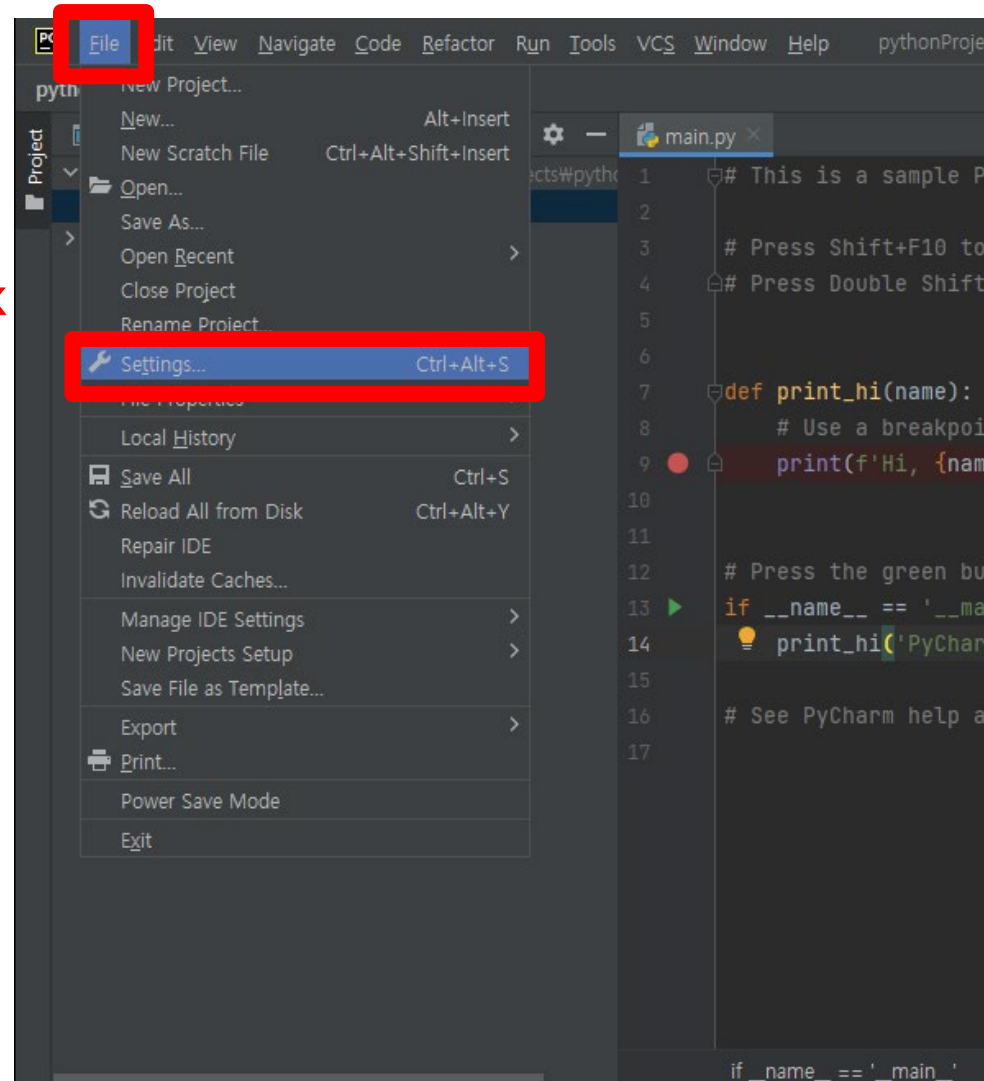
■Interpreter setting

'Hi, PyCharm' is out

Library

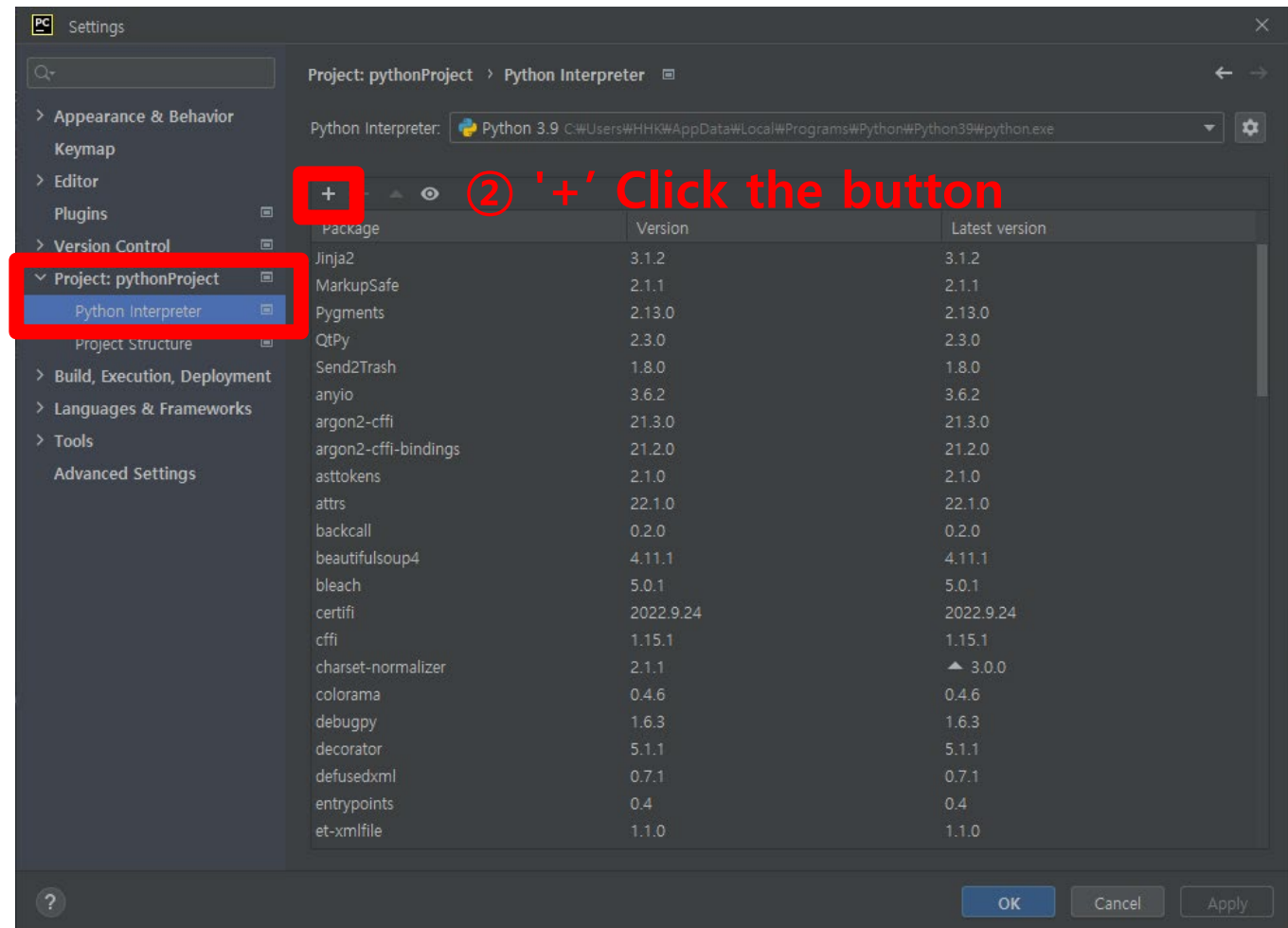## ■ Install the library

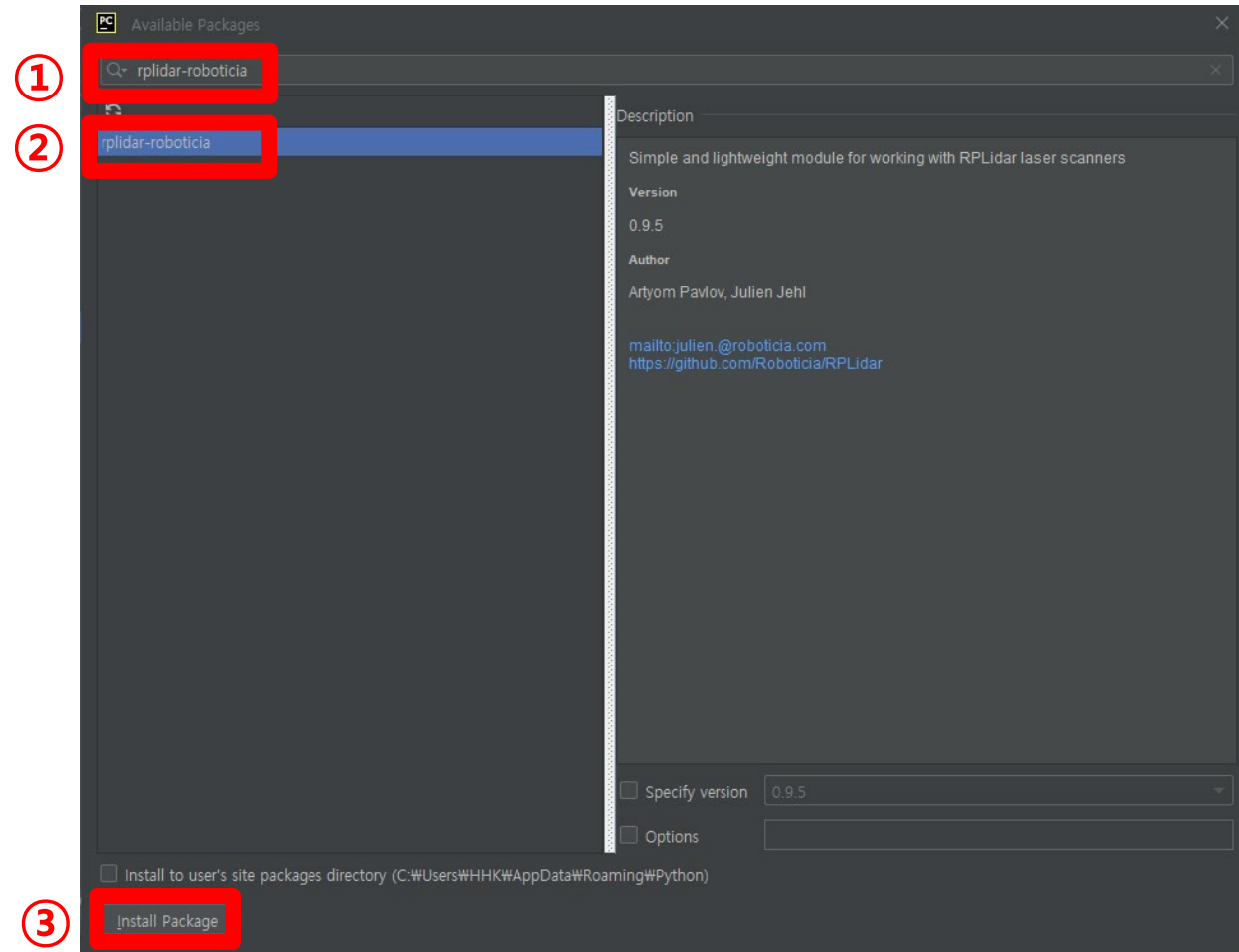**File - Settings Click**

Library

■ Install the library

① **Project: <Project Name>**
-> Python Interpreter Check

Library

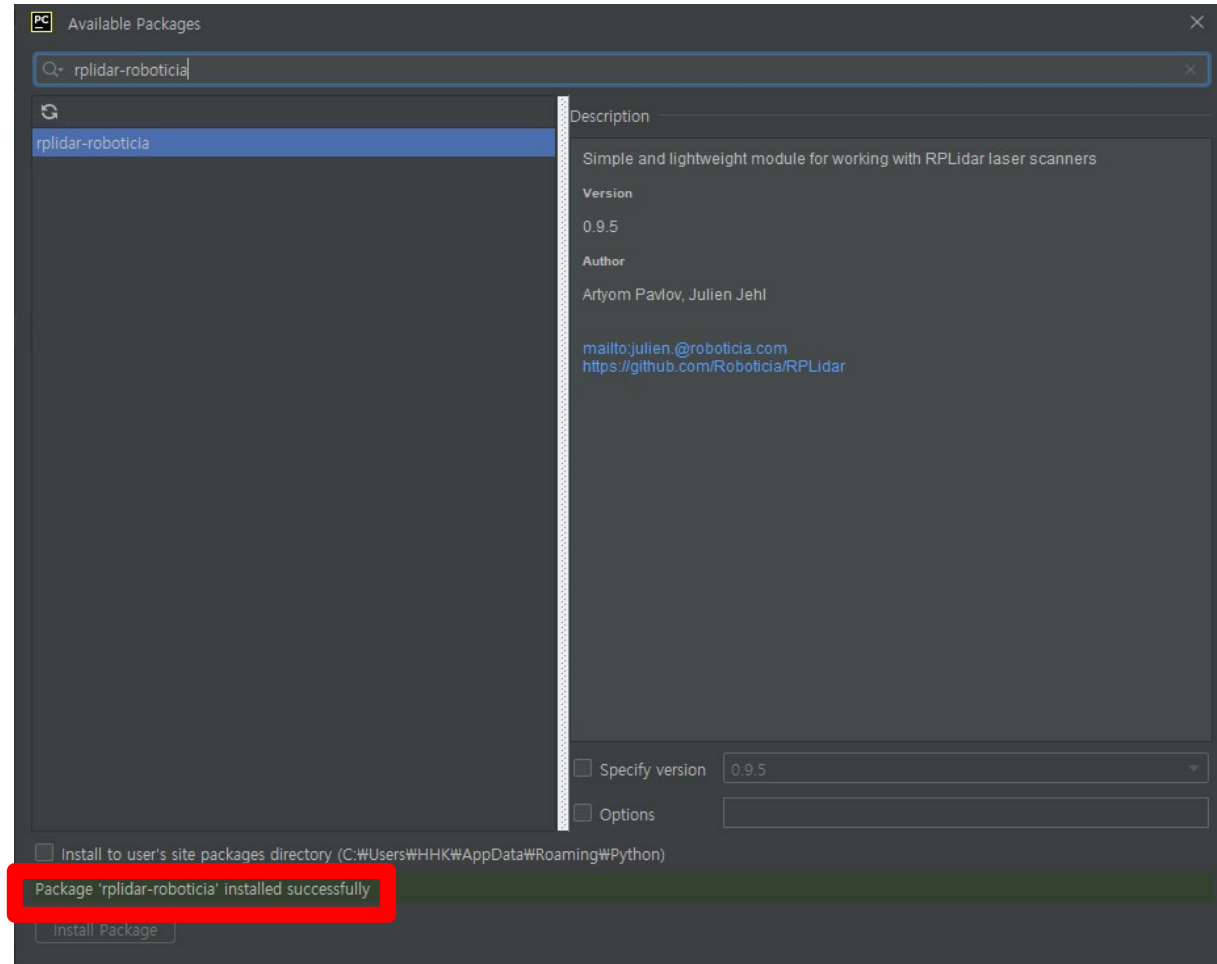## ■Install LiDAR library

① **rplidar-roboticia search**

② **rplidar-roboticia check**

③ **Install Package Click**

Library

■Install LiDAR library

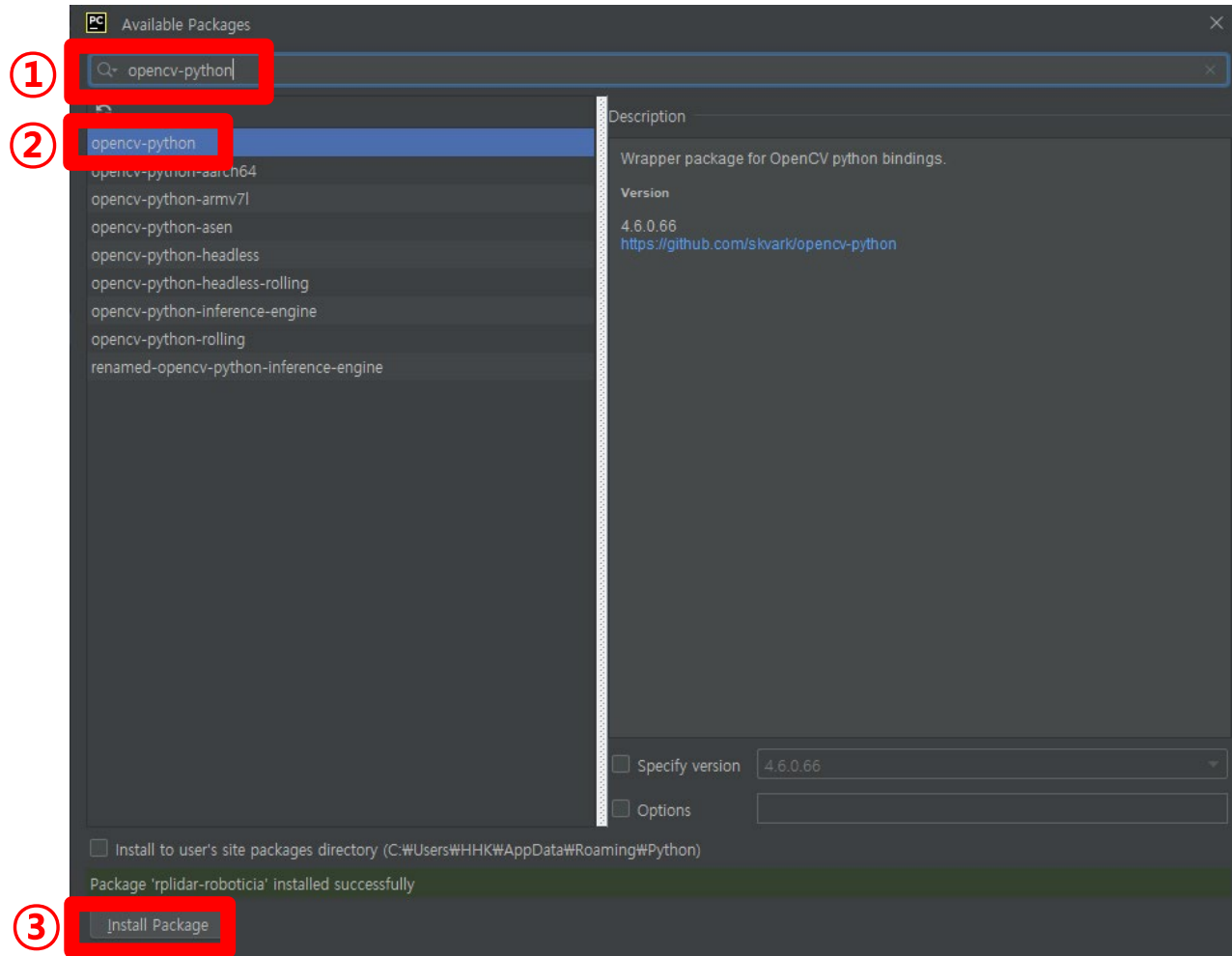**Check the installation success message**
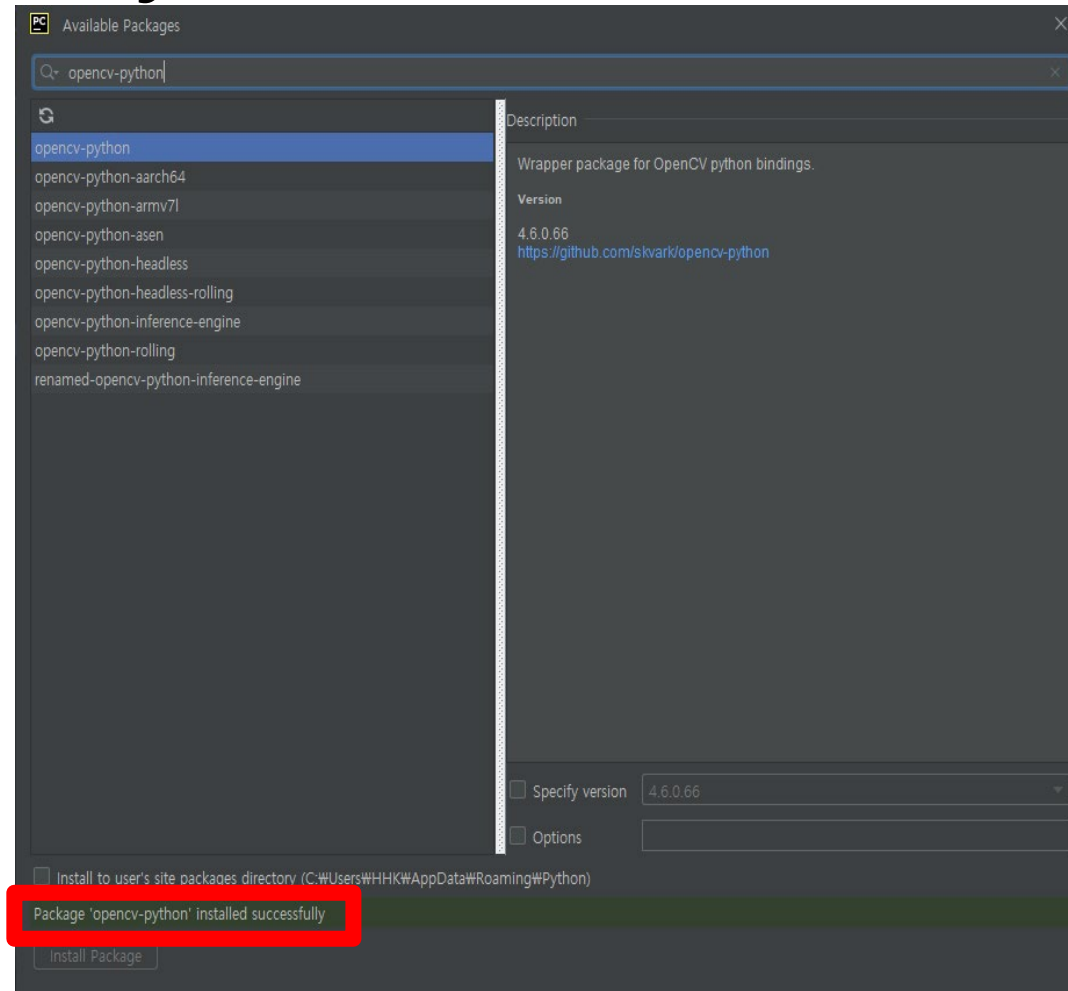
Library

■Install Camera library

① opencv-python search

② opencv-python check

③ Install Package click

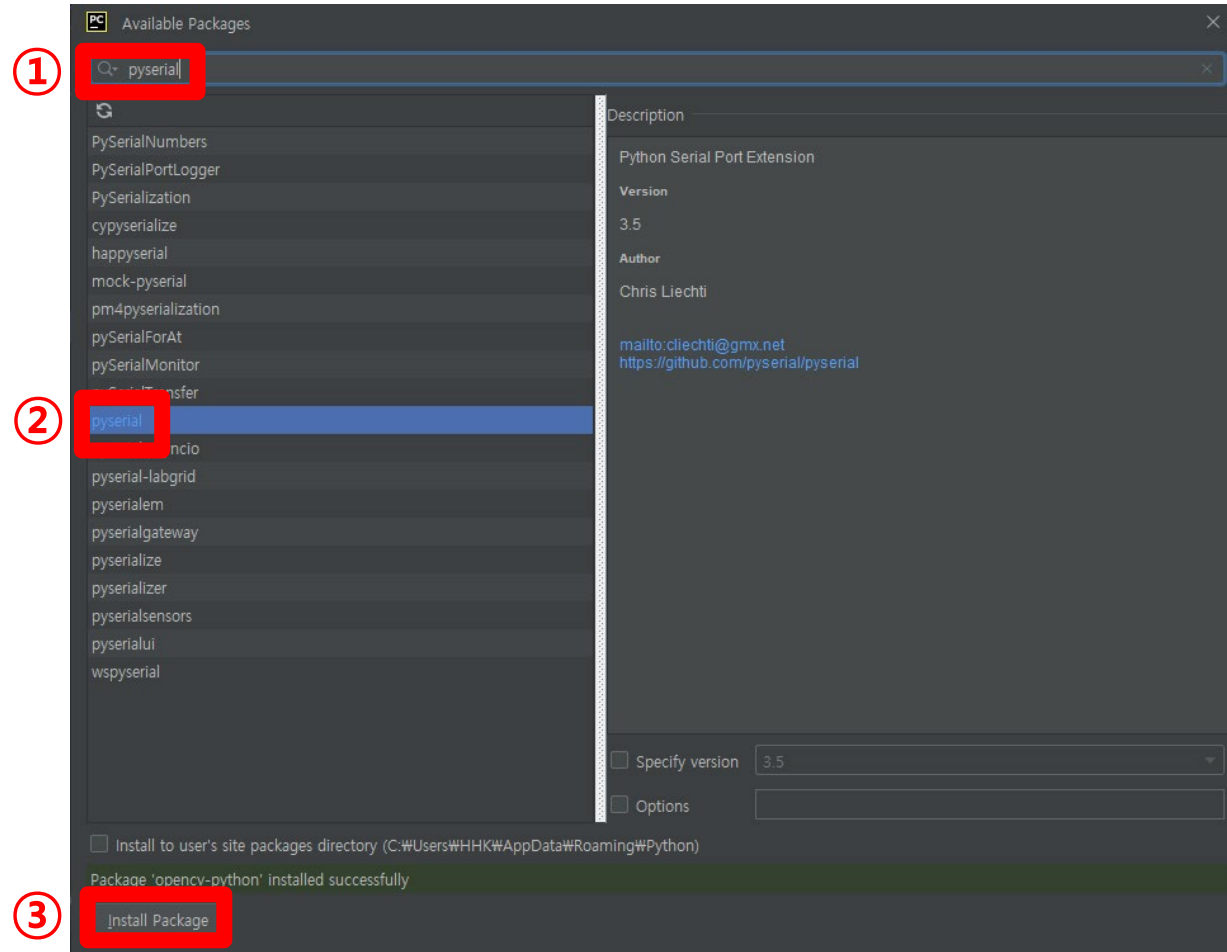# Library

■ Install Camera Library

Check the installation success message
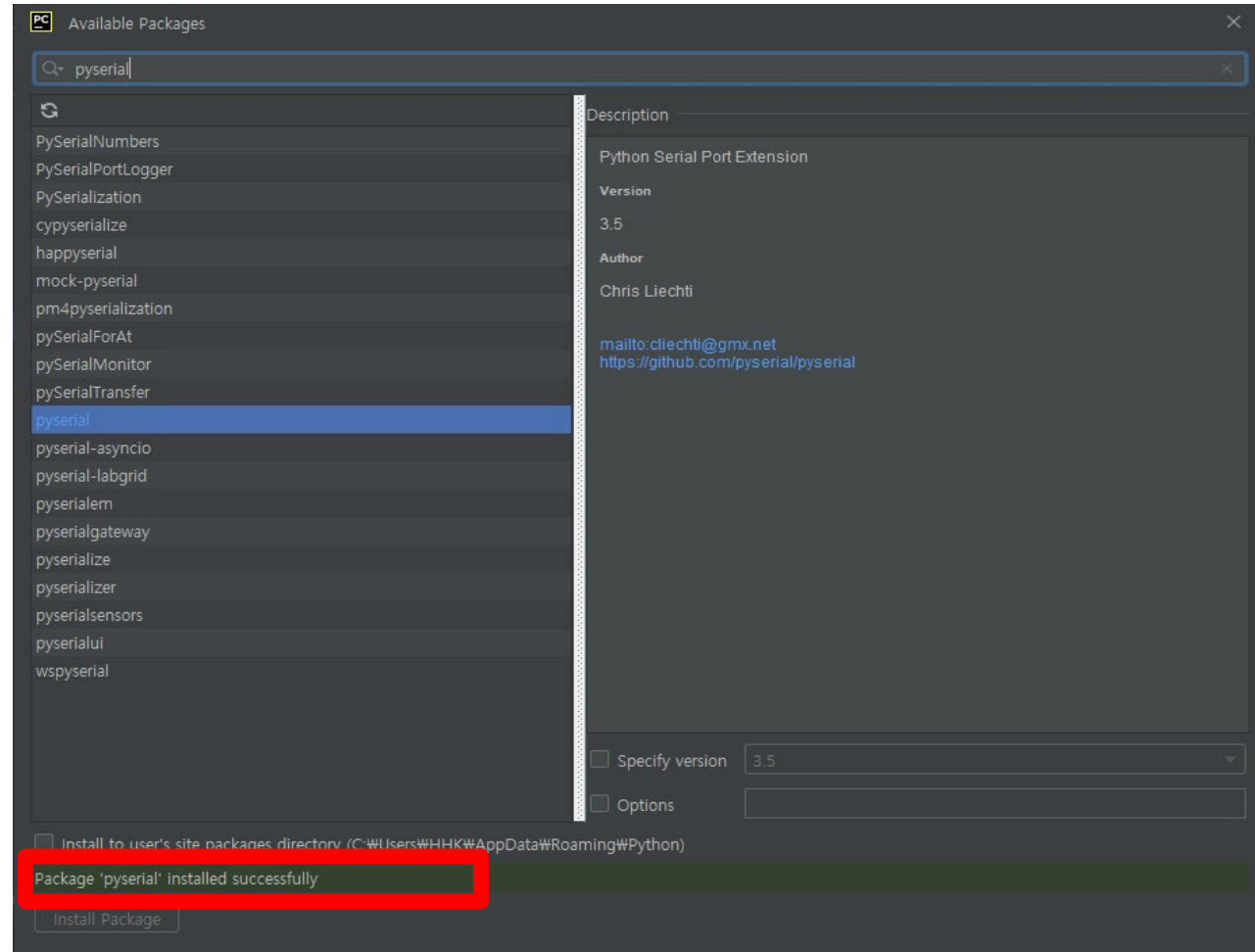
Library

■ **Install the Serial Communication Library**

① **pyserial search**

② **pyserial check**

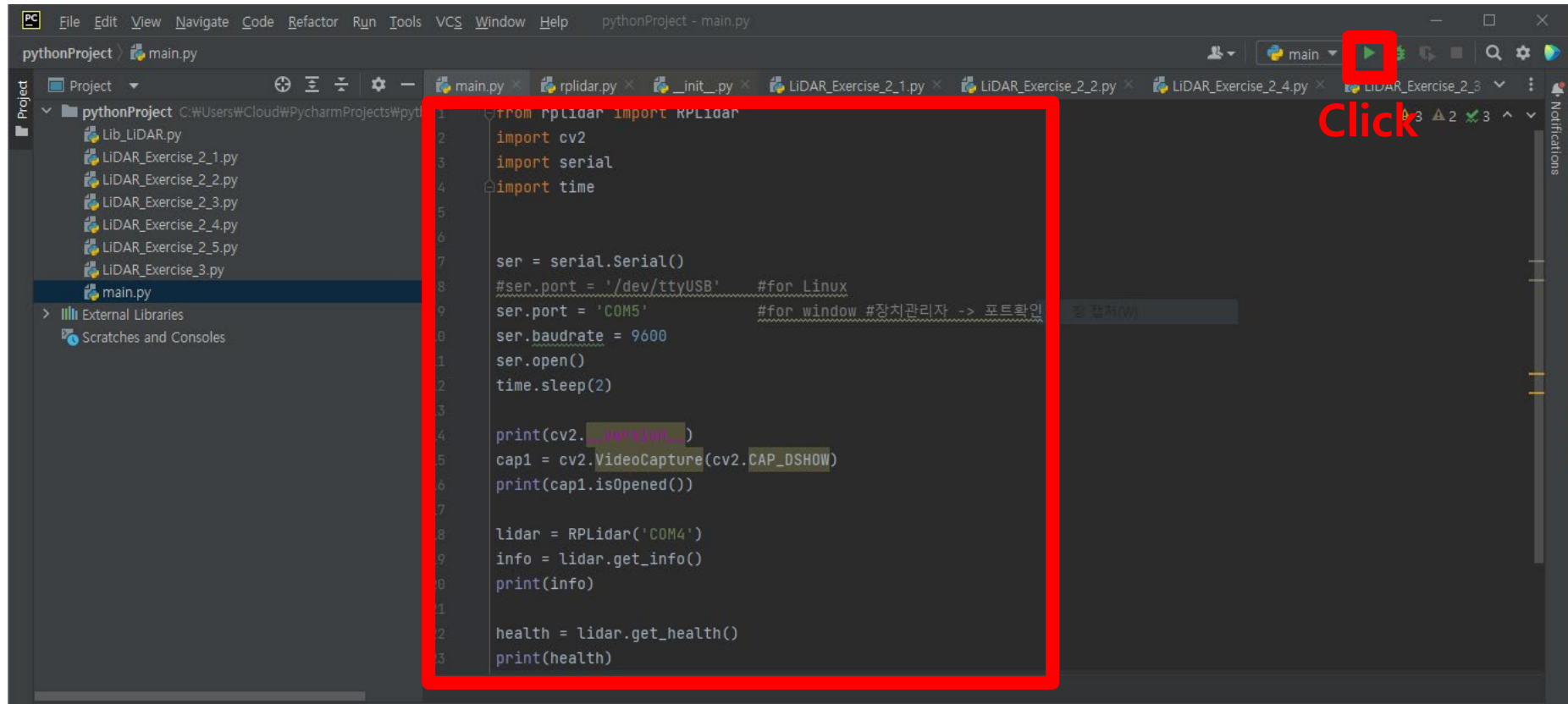③ **Install Package Click**

Library

■ **Install the Serial Communication Library**
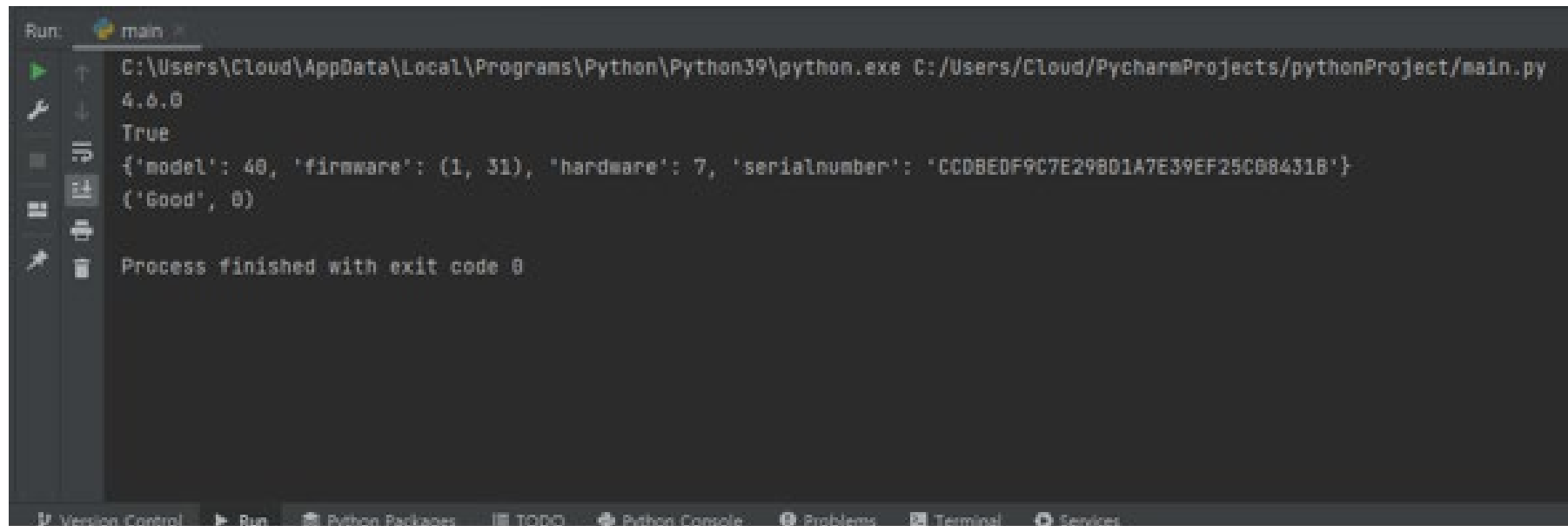

Check the installation success message

Exercise

■ Check library and device installation

Run test code

Exercise

■ Check library and device installation

Printing the following phrase means
Installation is done correctly

Thank You!

Automation Lab