

2D 게임 프로그래밍

제13강 애플리케이션 패키징

이대현
한국산업기술대학교

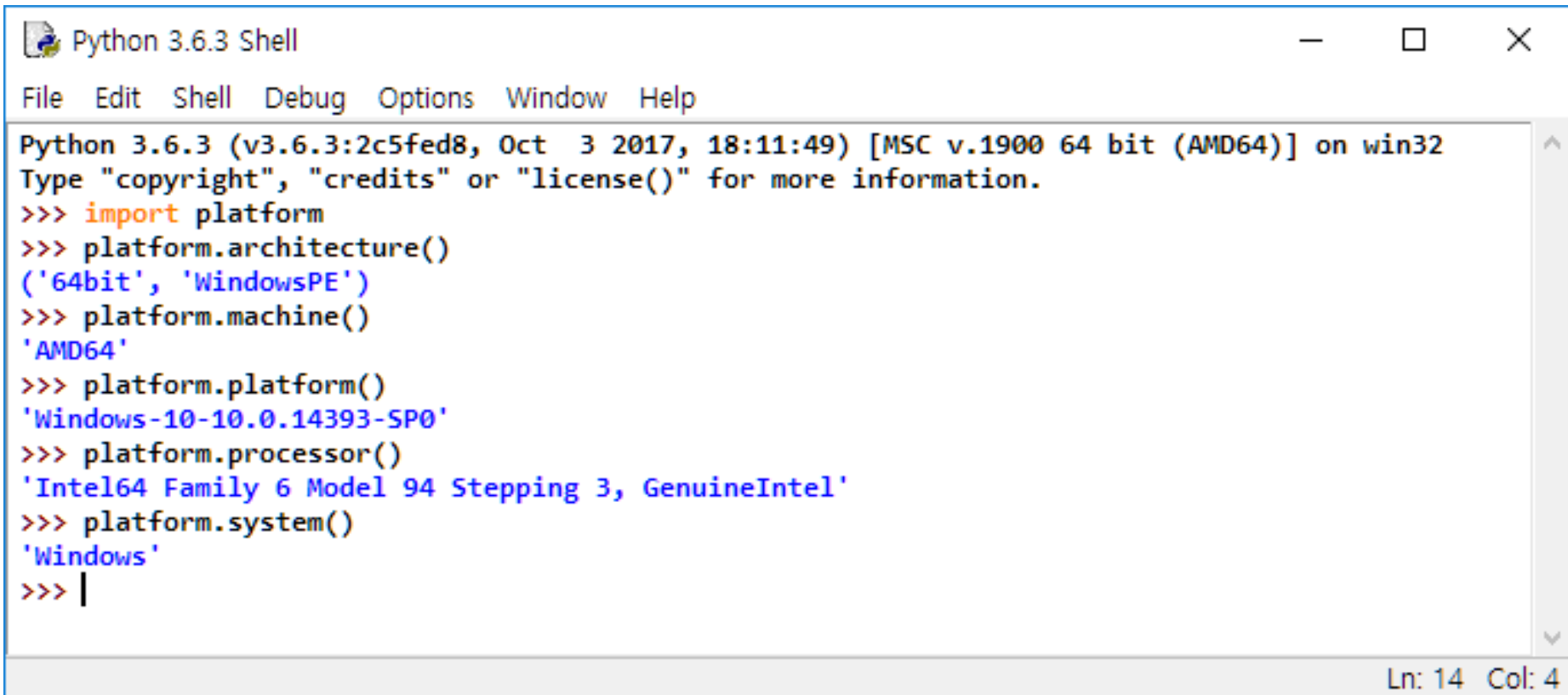


학습 내용

- 플랫폼의 버전 확인
- .py 를 .exe 로 변환
- Installer의 제작

실행 및 설치 환경 확인

- 파이썬 버전은? `platform.architecture()[0]`
 - '32bit' 또는 '64bit'
- 윈도우 버전은? `platform.machine()`
 - 'i386' 또는 'AMD64'



```
Python 3.6.3 Shell
File Edit Shell Debug Options Window Help
Python 3.6.3 (v3.6.3:2c5fed8, Oct 3 2017, 18:11:49) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> import platform
>>> platform.architecture()
('64bit', 'WindowsPE')
>>> platform.machine()
'AMD64'
>>> platform.platform()
'Windows-10-10.0.14393-SP0'
>>> platform.processor()
'Intel64 Family 6 Model 94 Stepping 3, GenuineIntel'
>>> platform.system()
'Windows'
>>> |
```


















Ln: 14 Col: 4

mygame.py가 실행되기 위해 필요로 하는 것들... (1)

- 여러분이 작성한 000.py
- 리소스: image, json, font 파일 등등
- pico2d.py
- PySDL2 패키지

mygame.py가 실행되기 위해 필요로 하는 것들...(2)

- SDL 라이브러리 DLL
 - 32 bit / 64 bit 에 해당하는 DLL 들
 - SDL2.dll, SDL2_image.dll, SDL2_mixer.dll, SDL2_ttf.dll
- SDL 이 사용하는 외부 라이브러리

 libFLAC-8	dll
 libfreetype-6	dll
 libjpeg-9	dll
 libmikmod-2	dll
 libmodplug-1	dll
 libogg-0	dll
 libpng16-16	dll
 libtiff-5	dll
 libvorbis-0	dll
 libvorbisfile-3	dll
 libwebp-4	dll
 SDL2	dll
 SDL2_image	dll
 SDL2_mixer	dll
 SDL2_ttf	dll
 smpeg2	dll
 zlib1	dll

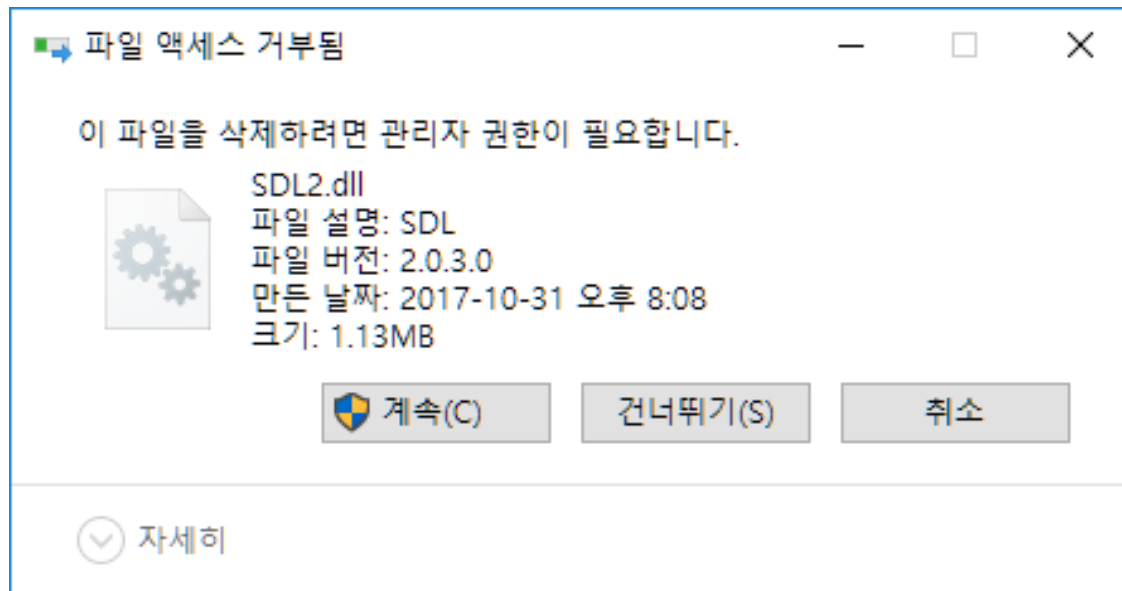


mygame.py 를
Mygame.exe 로 변환

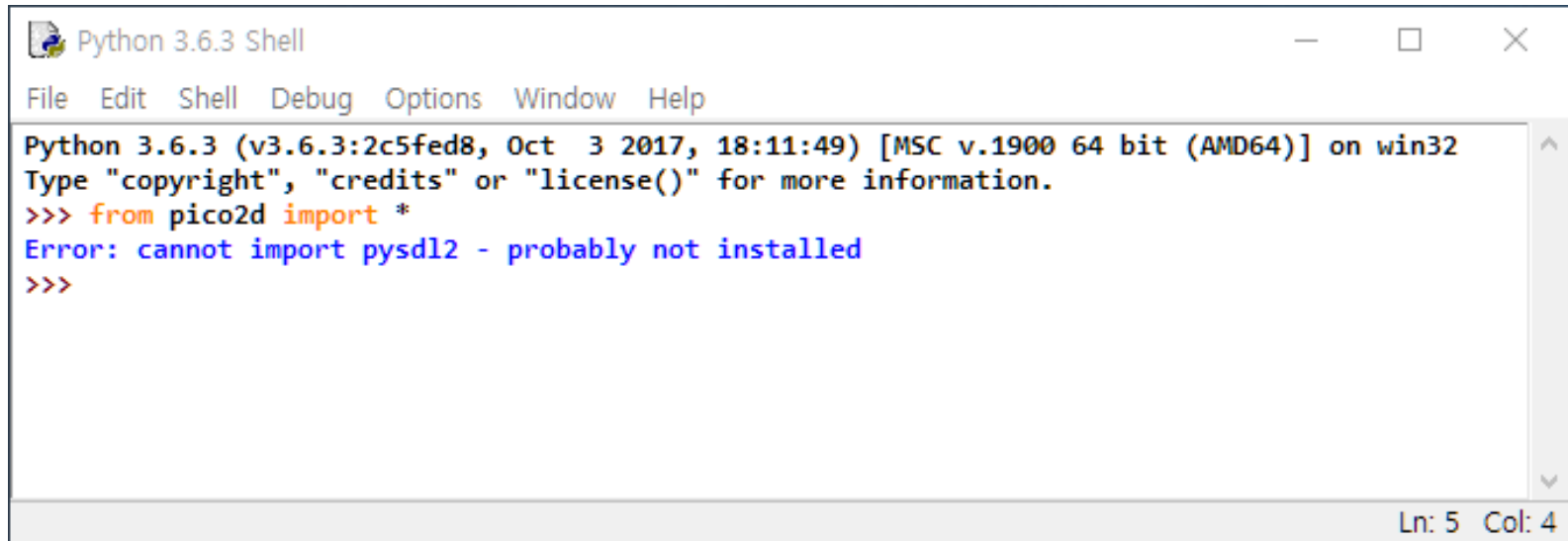
각자의 PC에서 설치된 SDL 관련 DLL 삭제하기



- 32bit version window
 - C:\Windows\System32
- 64bit window
 - C:\Windows\SysWOW64



mygame.py 의 실행 실패 !



A screenshot of a Python 3.6.3 Shell window. The window title is "Python 3.6.3 Shell". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area shows the following output:

```
Python 3.6.3 (v3.6.3:2c5fed8, Oct 3 2017, 18:11:49) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> from pico2d import *
Error: cannot import pysdl2 - probably not installed
>>>
```

The status bar at the bottom right indicates "Ln: 5 Col: 4".



```
import platform
import os

if platform.architecture()[0] == '32bit':
    os.environ["PYSDL2_DLL_PATH"] = "./SDL2/x86"
else:
    os.environ["PYSDL2_DLL_PATH"] = "./SDL2/x64"

import game_framework

import main_state

game_framework.run(main_state)
```

이제 제대로 실행이 된다!

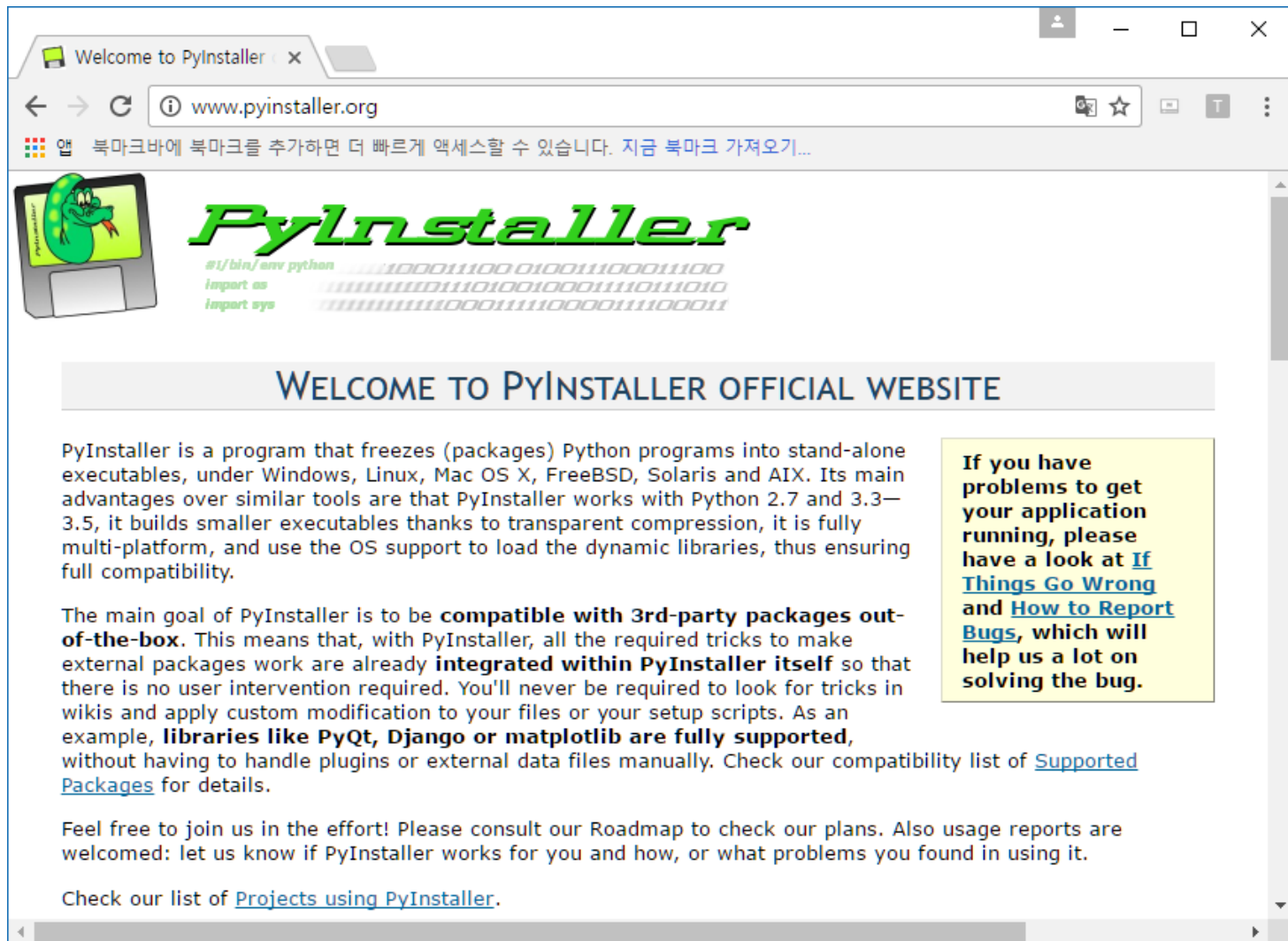


pico2d update(콘솔창에서)

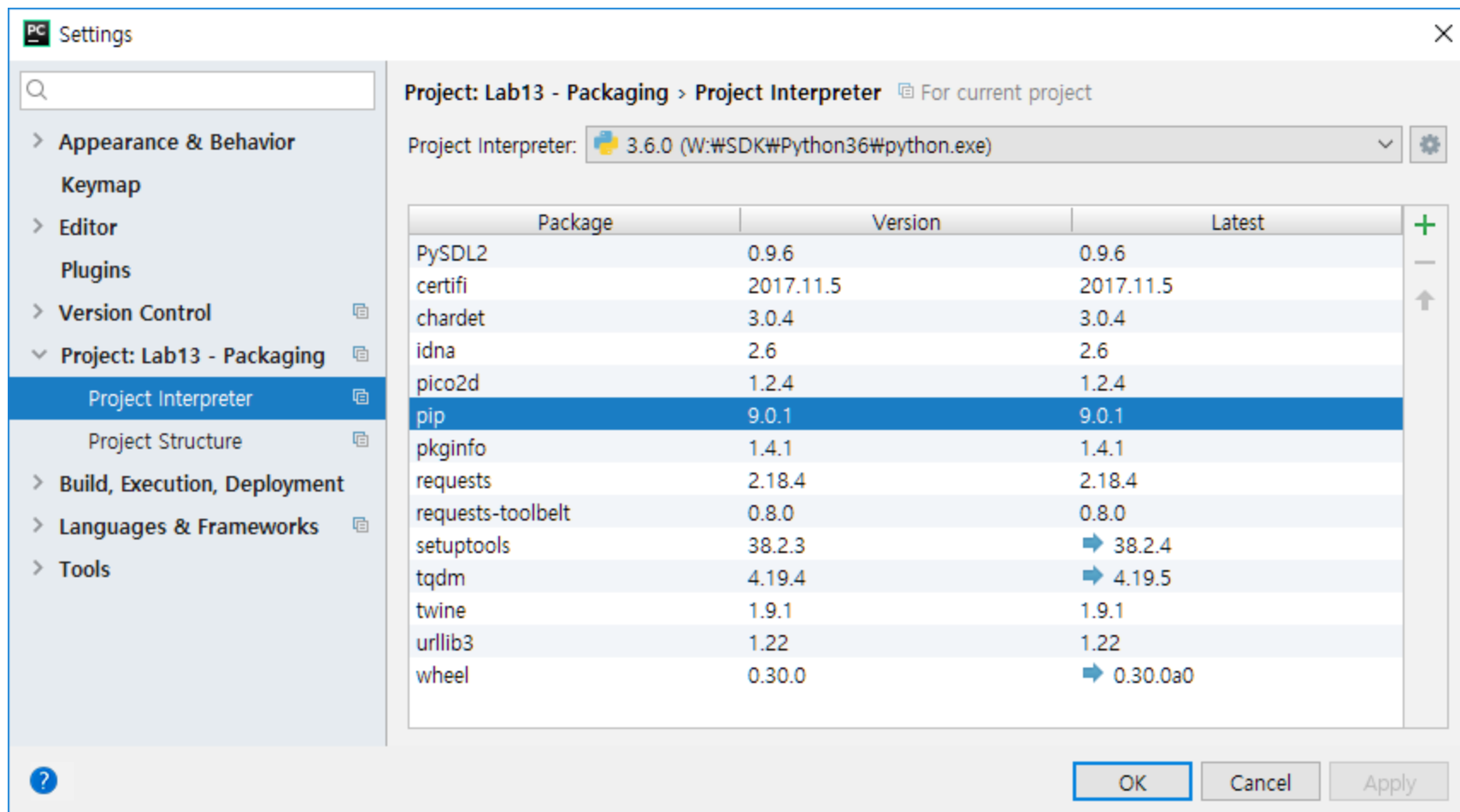
```
pip uninstall pico2d  
pip install pico2d
```

PyInstaller

- <http://www.pyinstaller.org/>




PyCharm: pip 설치 확인



Settings

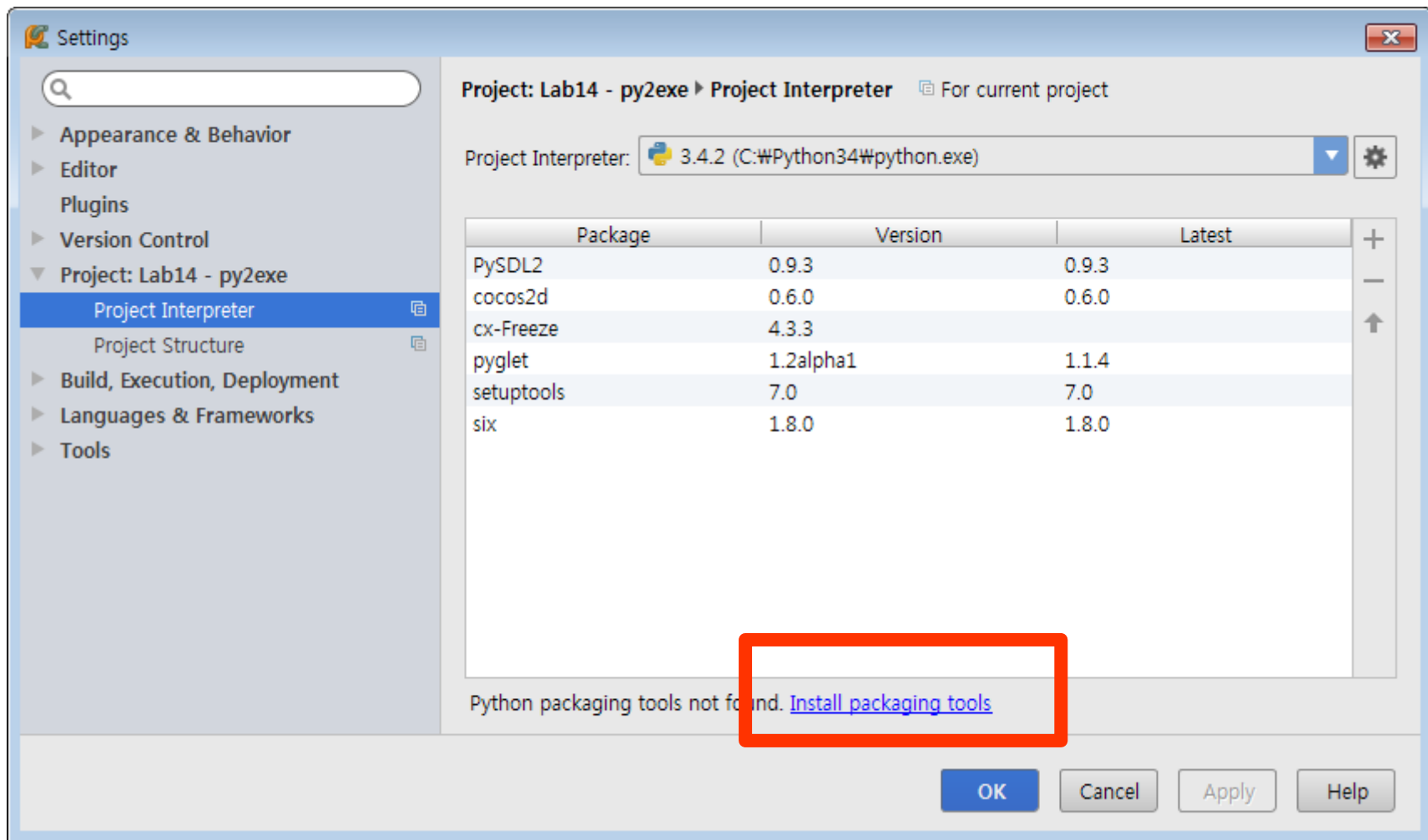
Project: Lab13 - Packaging > Project Interpreter For current project

Project Interpreter:  3.6.0 (W:\SDK\Python36\python.exe)

Package	Version	Latest
PySDL2	0.9.6	0.9.6
certifi	2017.11.5	2017.11.5
chardet	3.0.4	3.0.4
idna	2.6	2.6
pico2d	1.2.4	1.2.4
pip	9.0.1	9.0.1
pkginfo	1.4.1	1.4.1
requests	2.18.4	2.18.4
requests-toolbelt	0.8.0	0.8.0
setuptools	38.2.3	➡ 38.2.4
tqdm	4.19.4	➡ 4.19.5
twine	1.9.1	1.9.1
urllib3	1.22	1.22
wheel	0.30.0	➡ 0.30.0a0

OK Cancel Apply

PyCharm: pip 설치 및 version upgrade



cmd 창을 열고, pefile을 install ➔ pip install pefile-master.zip

```
명령 프롬프트

c:\W\LectureCode\W2016-2DGP\WSDK 디렉터리

2016-12-05 오후 07:23 <DIR> .
2016-12-05 오후 07:23 <DIR> ..
2016-12-05 오후 07:16      2,380,880 innosetup-5.5.9-unicode.exe
2016-12-05 오후 06:51    48,961,272 pefile-master.zip
2016-09-07 오후 06:21     106,496 pico2d-1.1.2015.win-amd64.msi
2016-09-07 오후 06:21     106,496 pico2d-1.1.2015.win32.msi
2016-09-07 오후 06:11    1,186,614 PySDL2-0.9.4.zip
2016-09-07 오후 06:10    4,630,253 sdl2_dll.zip
      6개 파일          57,372,011 바이트
      2개 디렉터리    46,505,656,320 바이트 남음

c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>
c:\W\LectureCode\W2016-2DGP\WSDK>pip install pefile-master.zip
Processing c:\W\lecturecode\W2016-2dgp\WSDK\pefile-master.zip
Requirement already satisfied: future in w:\W\python35\lib\site-packages (from pefile==2016.3.28)
Installing collected packages: pefile
  Running setup.py install for pefile ... done
Successfully installed pefile-2016.3.28

c:\W\LectureCode\W2016-2DGP\WSDK>
```

PyCharm: PyInstaller 설치

The image shows the PyCharm interface with two windows open. The 'Settings' window is in the background, showing the 'Project: Lab13 - Packaging > Project Interpreter' section. The 'Project Interpreter' is set to '3.6.0 (W:\SDK\Python36\python.exe)'. A table of installed packages is visible, with a red box highlighting a green '+' button in the top right corner of the table.

Package	Version	Latest
PySDL2	0.9.6	0.9.6
certifi	2017.11.5	2017.11.5
chardet	3.0.4	3.0.4

The 'Available Packages' window is in the foreground, showing a search for 'pyinstaller'. The search results list 'PyInstaller' and 'pyinstaller-utils'. The 'PyInstaller' package is selected, and its details are shown on the right. The 'Install Package' button at the bottom is highlighted with a red box.

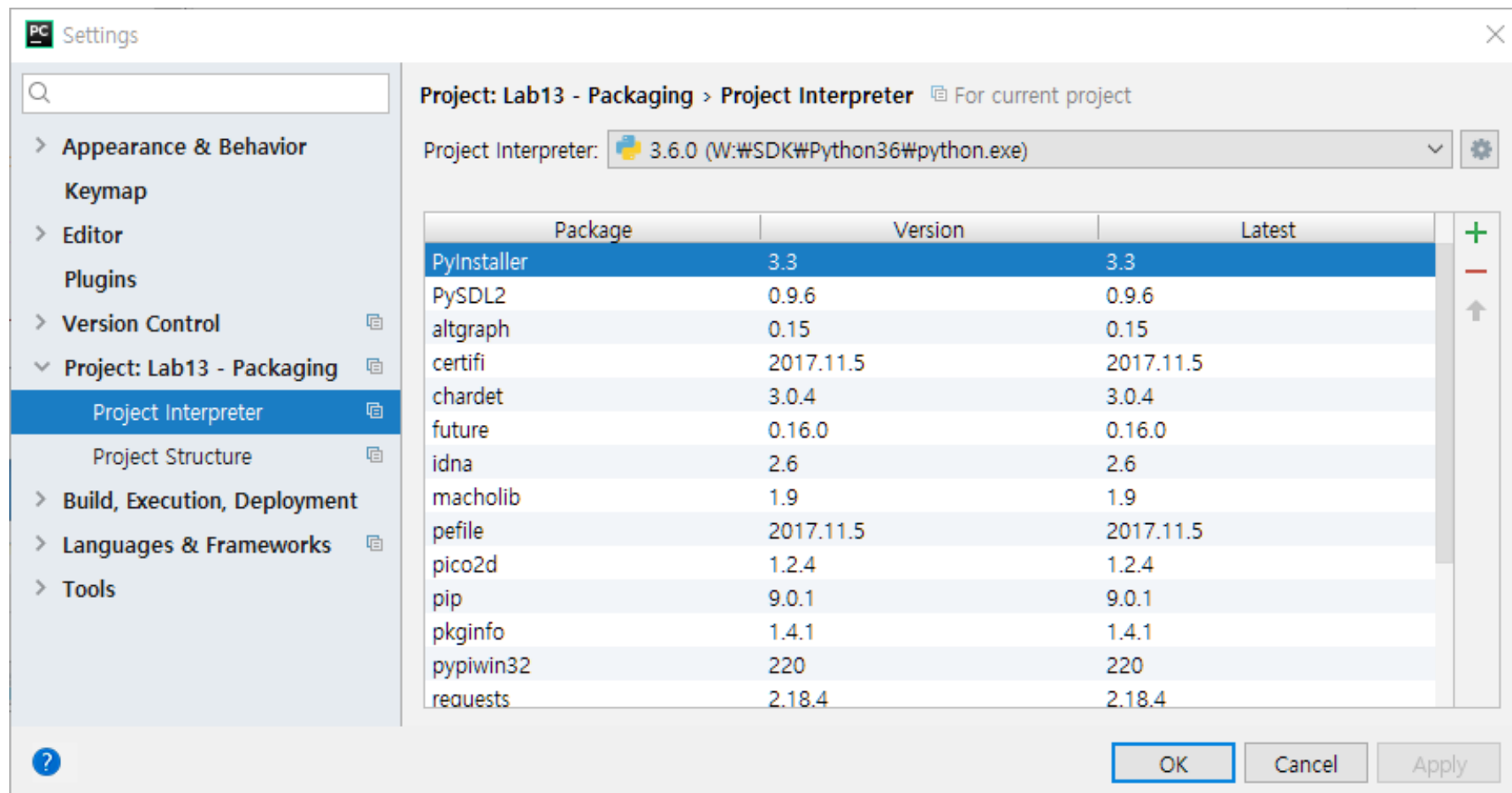
PyInstaller Details:

- Description:** PyInstaller bundles a Python application and all its dependencies into a single package.
- Version:** 3.2
- Author:** Giovanni Bajo, Hartmut Goebel, David Vierra, David Cortesi, Martin Zibricky
- Links:** <mailto:pyinstaller@googlegroups.com>, <http://www.pyinstaller.org>

☐ Install to user's site packages directory (C:\Users\dustinlee\AppData\Roaming\Python)

Buttons:

PyCharm: PyInstaller 설치 확인

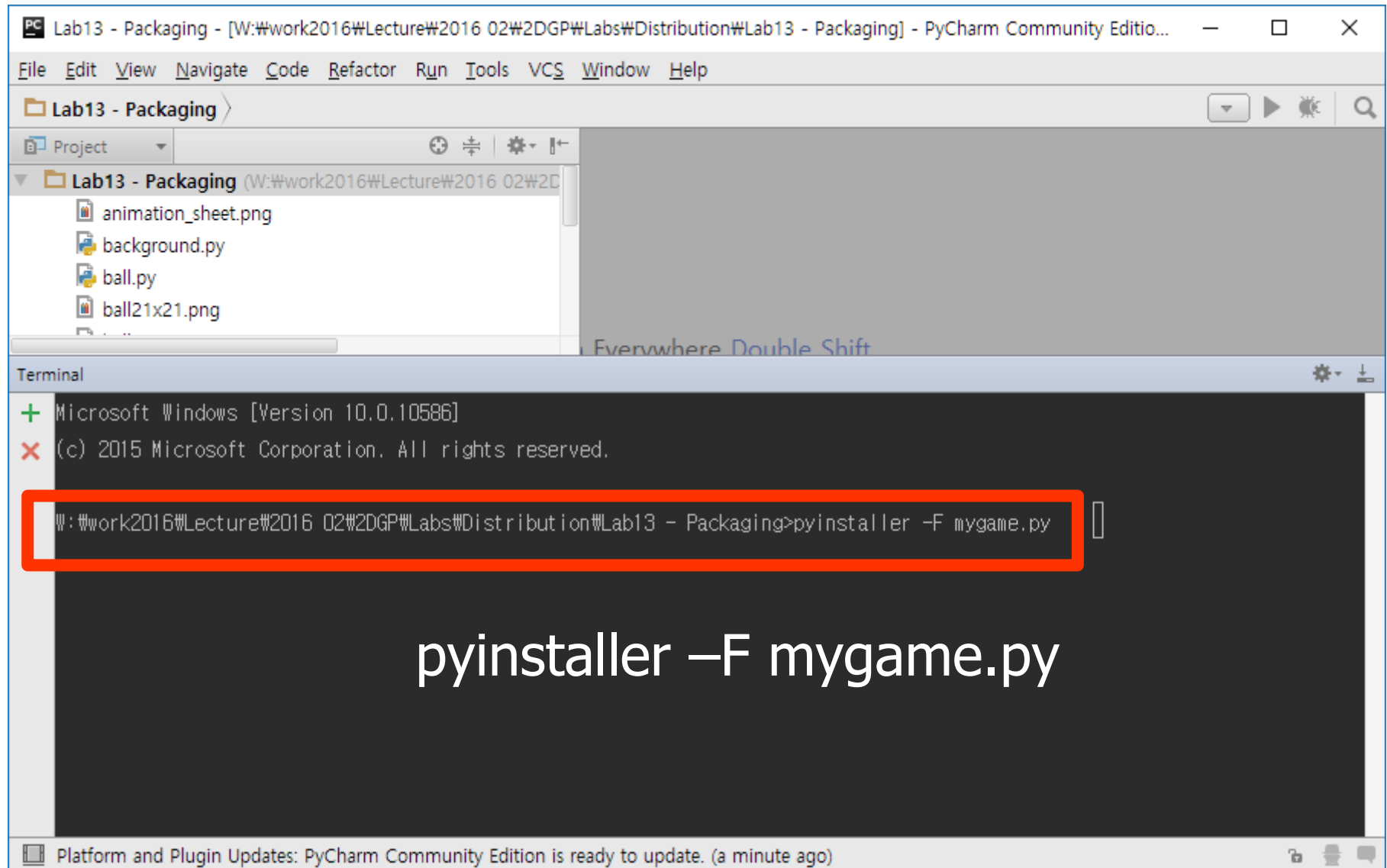


The image shows the PyCharm Settings window for the project 'Lab13 - Packaging'. The 'Project Interpreter' tab is selected, showing the current interpreter as '3.6.0 (W:\SDK\Python36\python.exe)'. Below this, a table lists installed packages and their versions compared to the latest available versions.

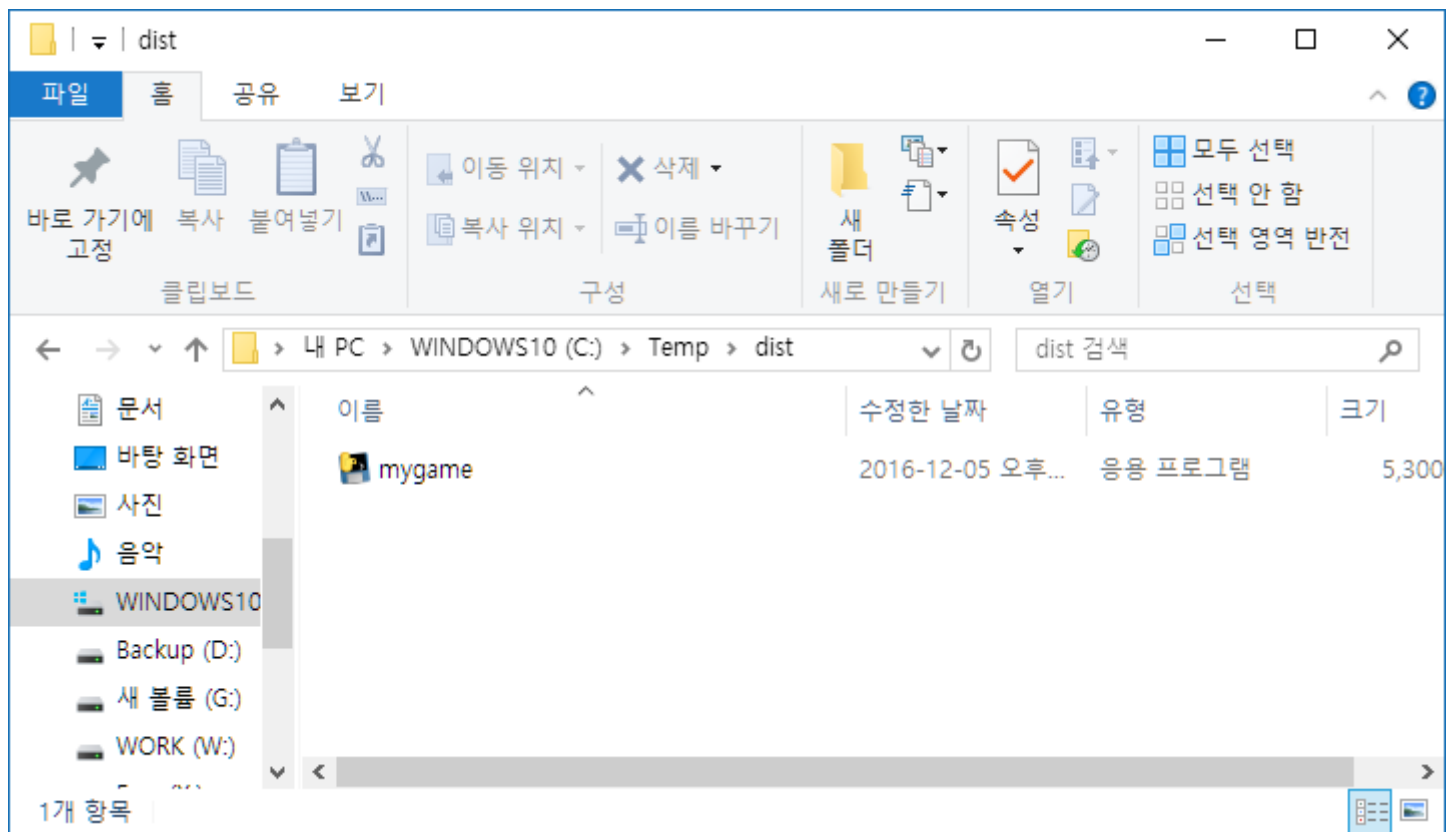
Package	Version	Latest
PyInstaller	3.3	3.3
PySDL2	0.9.6	0.9.6
altgraph	0.15	0.15
certifi	2017.11.5	2017.11.5
chardet	3.0.4	3.0.4
future	0.16.0	0.16.0
idna	2.6	2.6
macholib	1.9	1.9
pefile	2017.11.5	2017.11.5
pico2d	1.2.4	1.2.4
pip	9.0.1	9.0.1
pkginfo	1.4.1	1.4.1
pypiwin32	220	220
requests	2.18.4	2.18.4

At the bottom of the window, there are buttons for 'OK', 'Cancel', and 'Apply'.

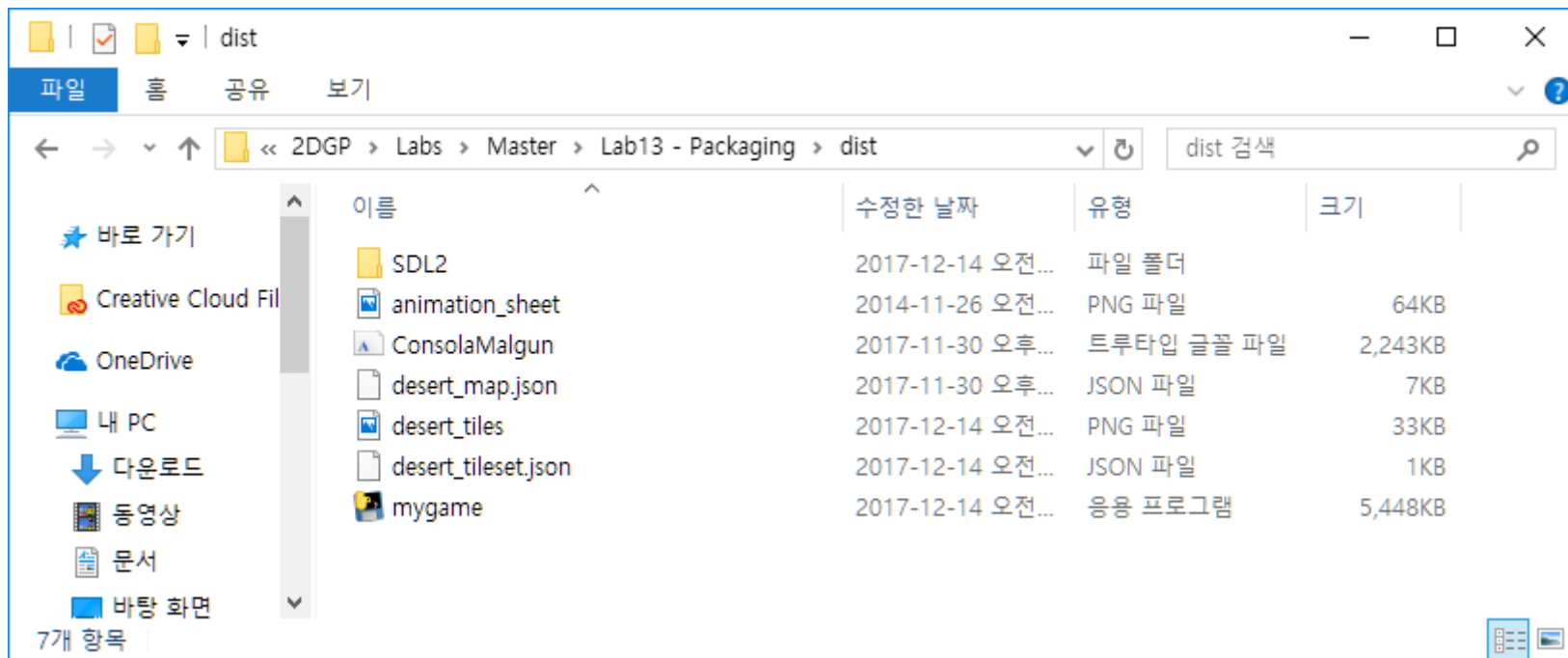
View → Tool Windows → Terminal 을 열고,



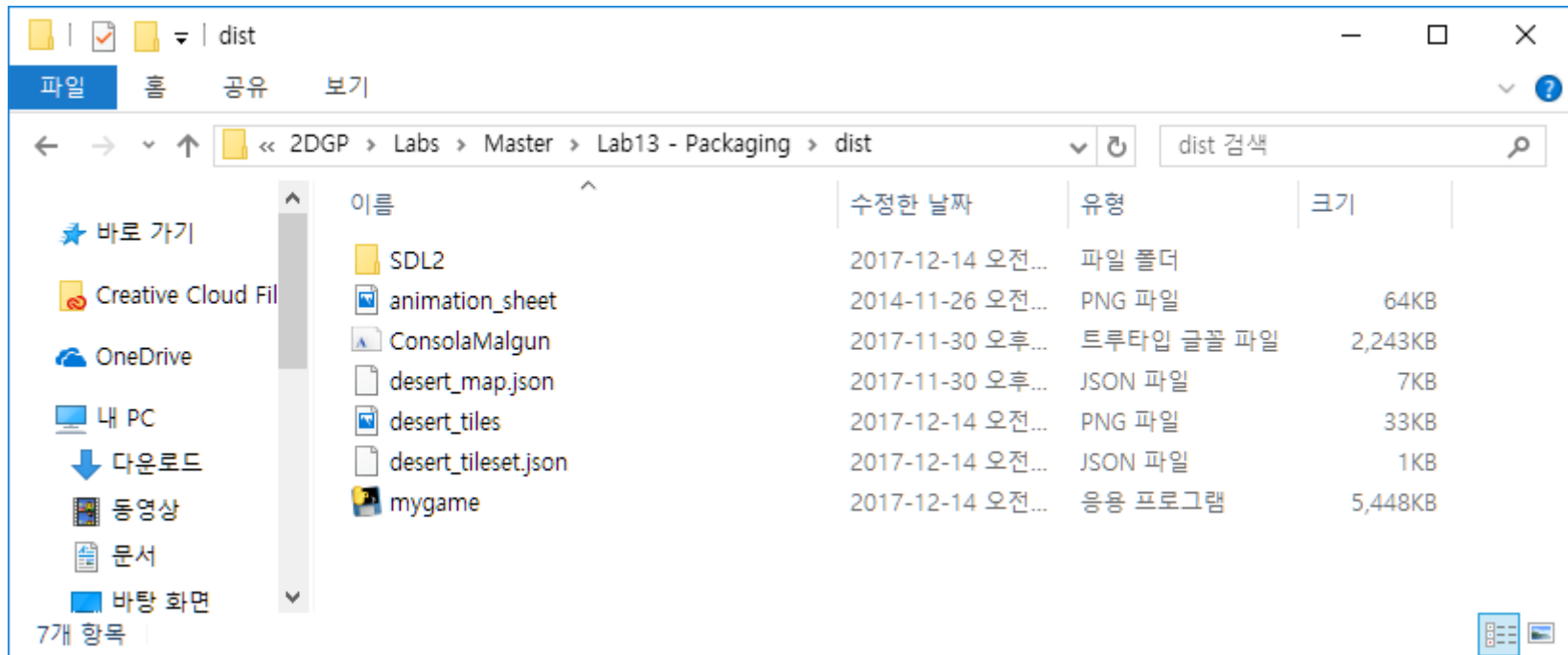
dist 폴더에 만들어진, mygame.exe



리소스 및 필요 DLL 을 복사해야 함.



dist 폴더: 여기서 mygame.exe 을 클릭하면 실행!



```
W:\work2017\Lecture\2017_02\2DGP\Labs\Master\Lab13 - Packaging\dist\mygame.exe
Pico2d is prepared.
ConsoleMain.TTF
({firstgid: 0, 'type': 'tileset', 'name': 'Desert', 'image': 'desert_tiles.png', 'imageheight': 192, 'imagewidth': 256,
'tileheight': 32, 'tilewidth': 32, 'columns': 8, 'tilecount': 48})
```



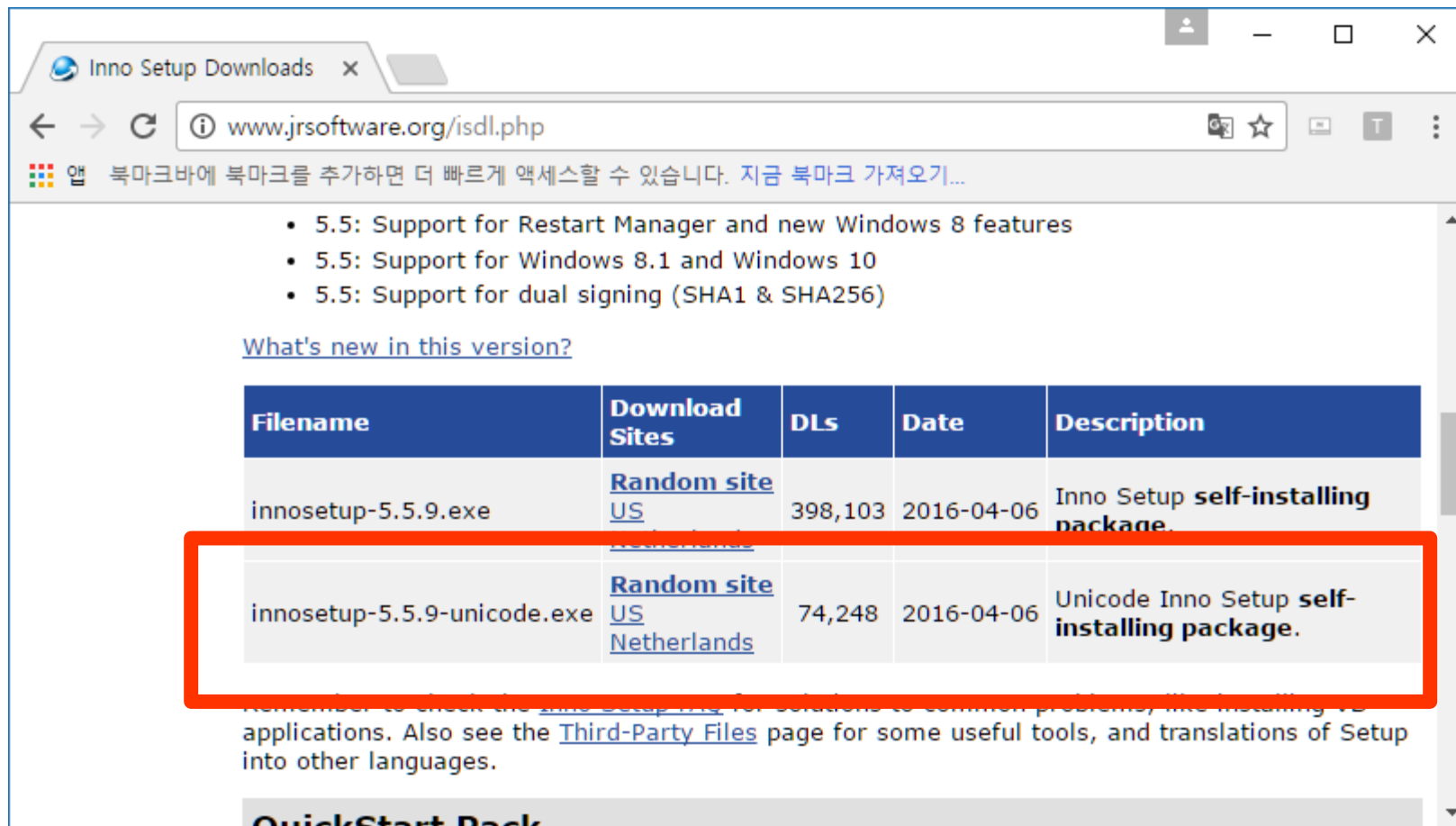
콘솔창을 없애려면?

```
Pyinstaller -F --windowed mygame.py
```



Installer를 이용한
설치 파일 제작

Inno Setup 의 설치



Inno Setup Downloads

www.jrsoftware.org/isdl.php

앱 북마크바에 북마크를 추가하면 더 빠르게 액세스할 수 있습니다. [지금 북마크 가져오기...](#)

- 5.5: Support for Restart Manager and new Windows 8 features
- 5.5: Support for Windows 8.1 and Windows 10
- 5.5: Support for dual signing (SHA1 & SHA256)

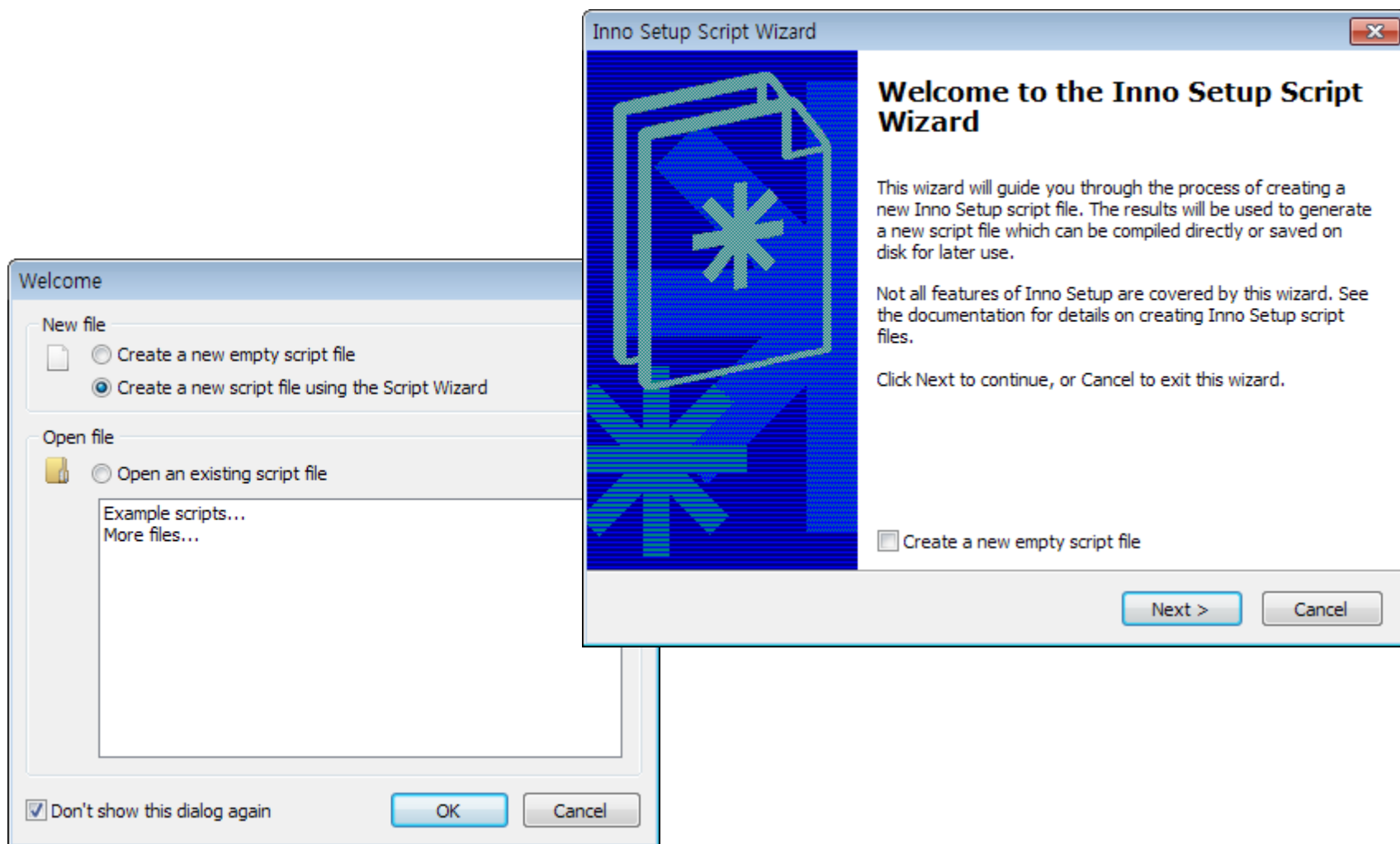
[What's new in this version?](#)

Filename	Download Sites	DLs	Date	Description
innosetup-5.5.9.exe	Random site US	398,103	2016-04-06	Inno Setup self-installing package.
innosetup-5.5.9-unicode.exe	Random site US Netherlands	74,248	2016-04-06	Unicode Inno Setup self-installing package.

Remember to check the [Inno Setup FAQ](#) for solutions to common problems, like installing vs applications. Also see the [Third-Party Files](#) page for some useful tools, and translations of Setup into other languages.

QuickStart Pack

실행: File->New



Inno Setup Script Wizard

Application Information

Please specify some basic information about your application.

Application name:

MyGame

Application version:

1.5

Application publisher:

KPU

Application website:

http://www.kpu.ac.kr

bold = required

< Back Next > Cancel

Inno Setup Script Wizard

Application Folder
Please specify folder information about your application.

Application destination base folder:
Program Files folder

Application folder name:
MyGame

☒ Allow user to change the application folder

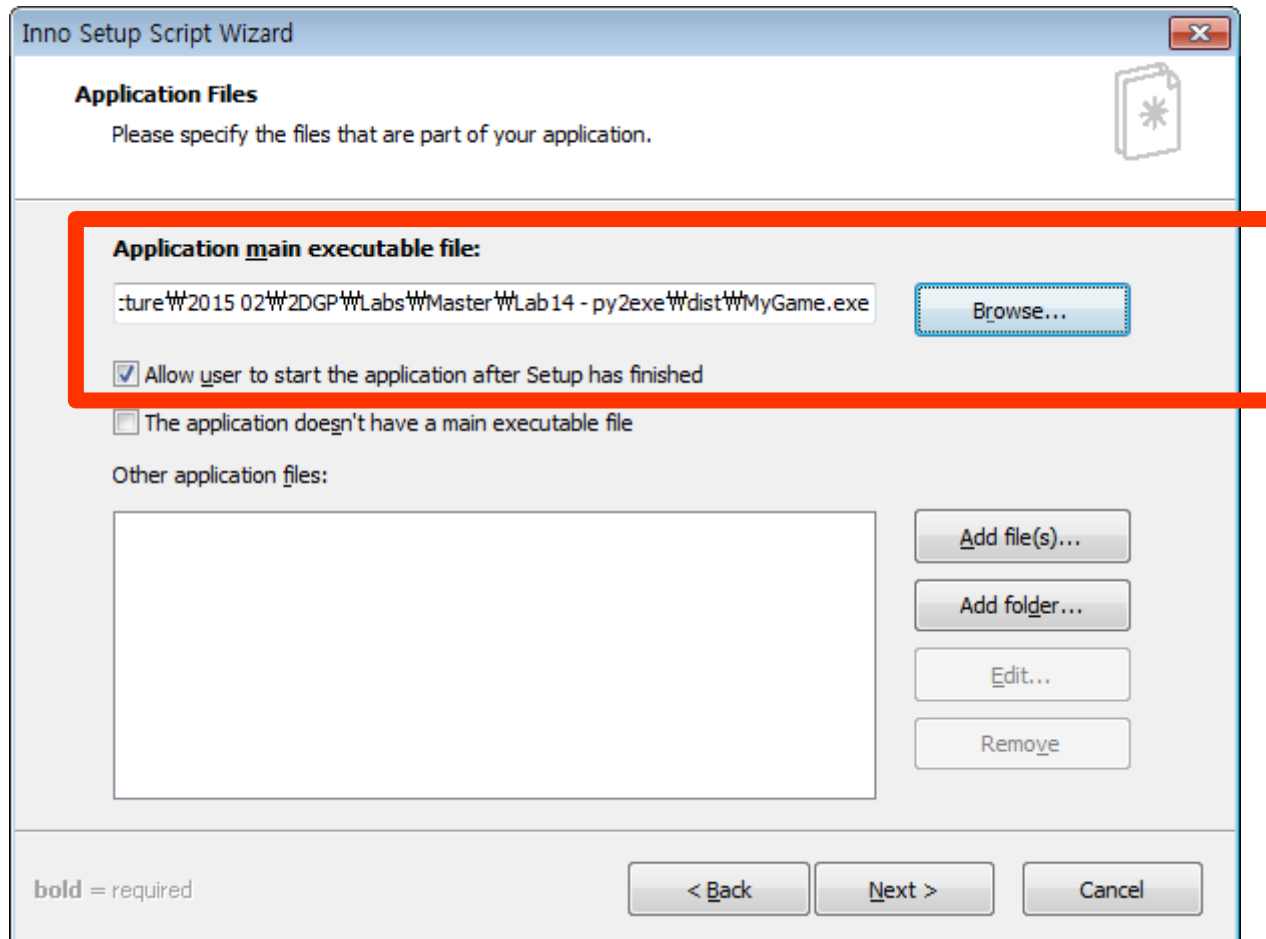
Other:

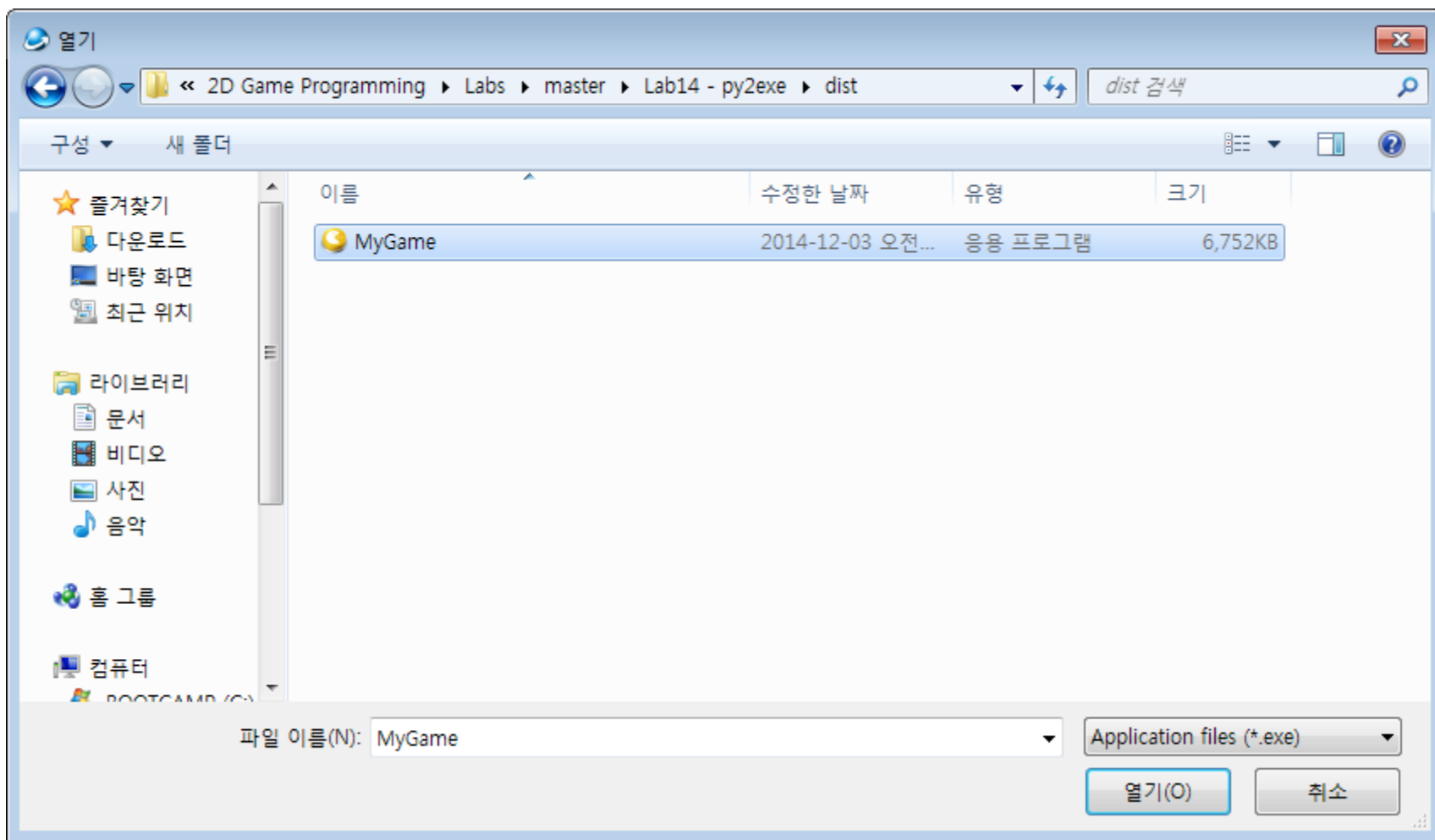
☐ The application doesn't need a folder

bold = required

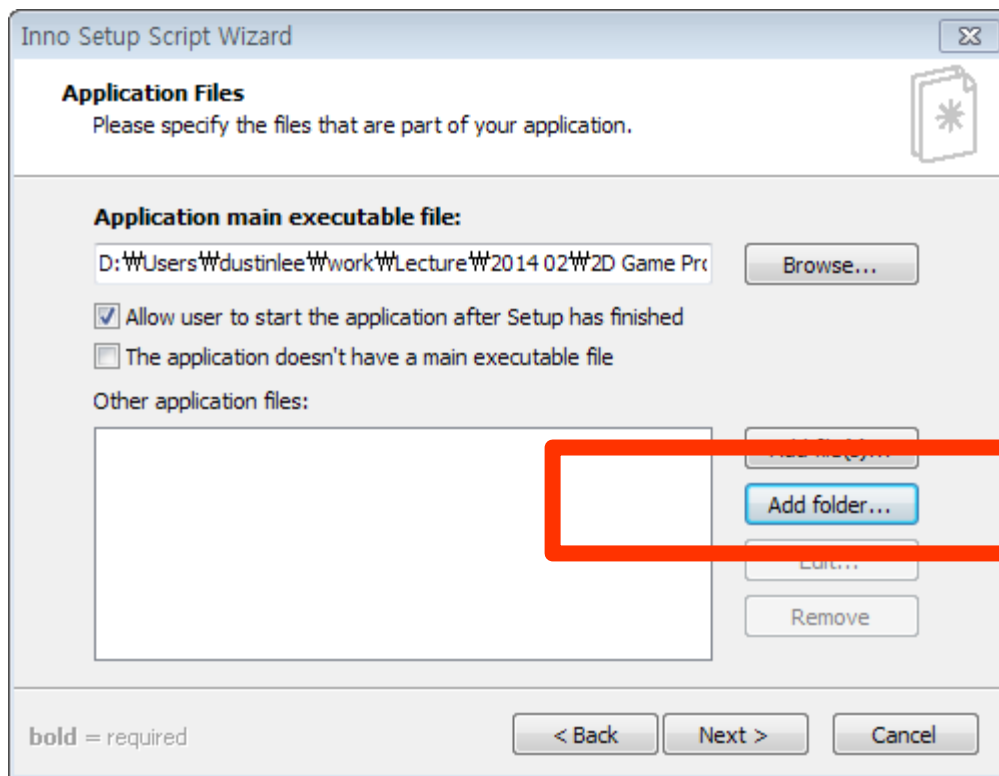
< Back Next > Cancel

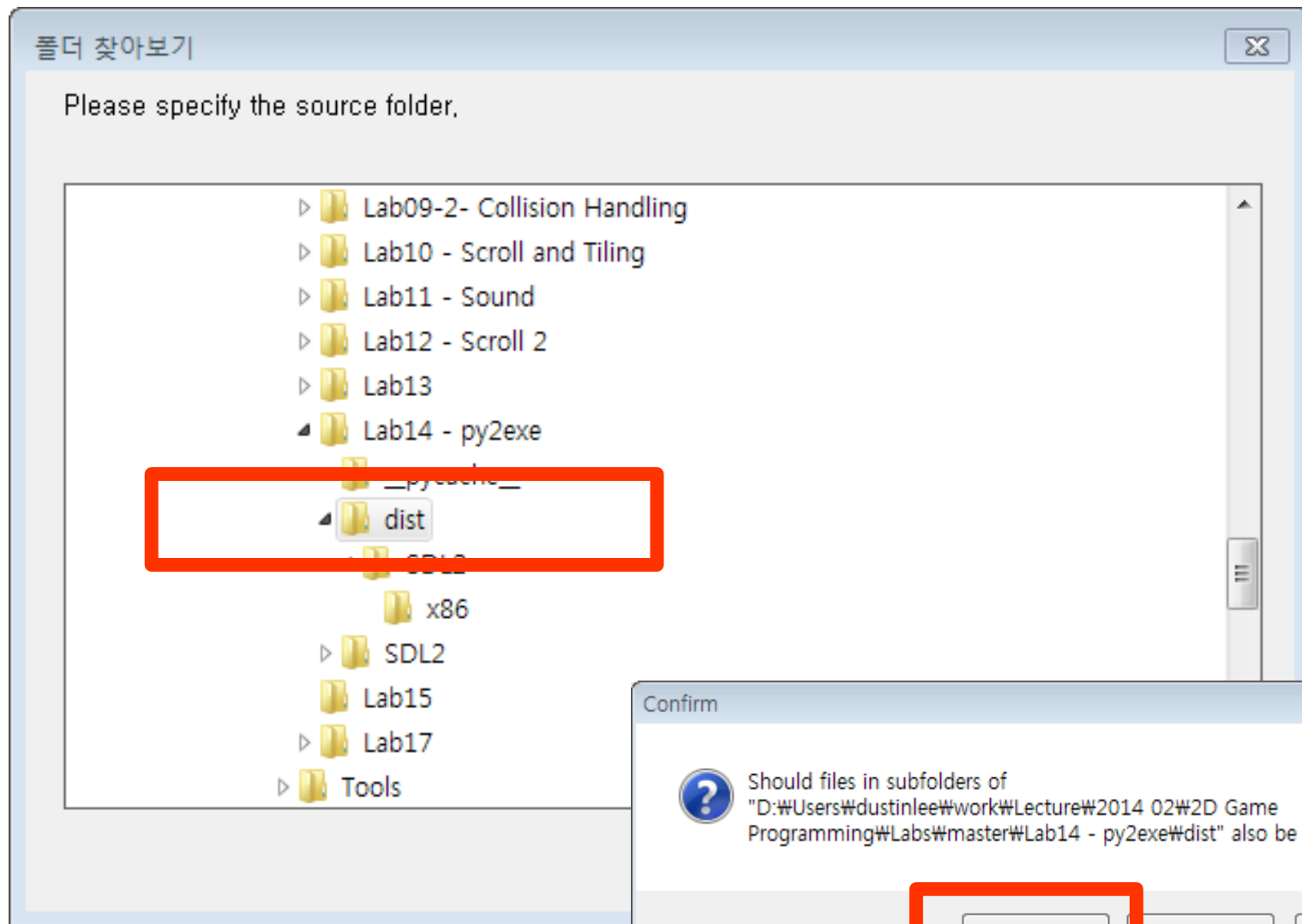
exe 파일의 추가

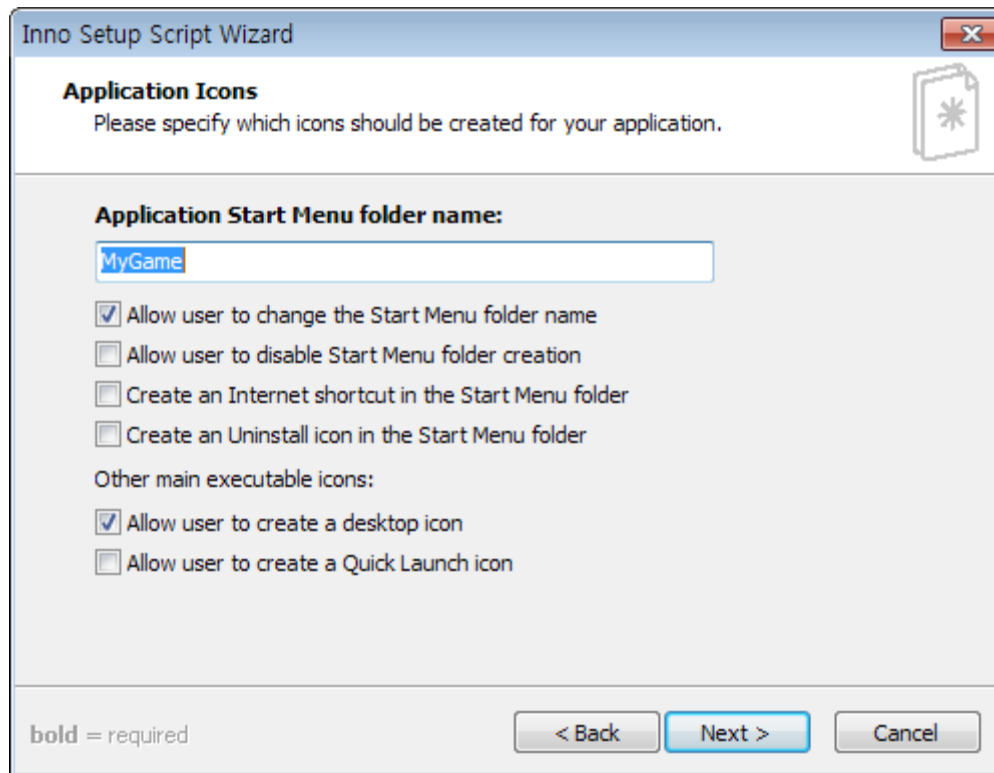


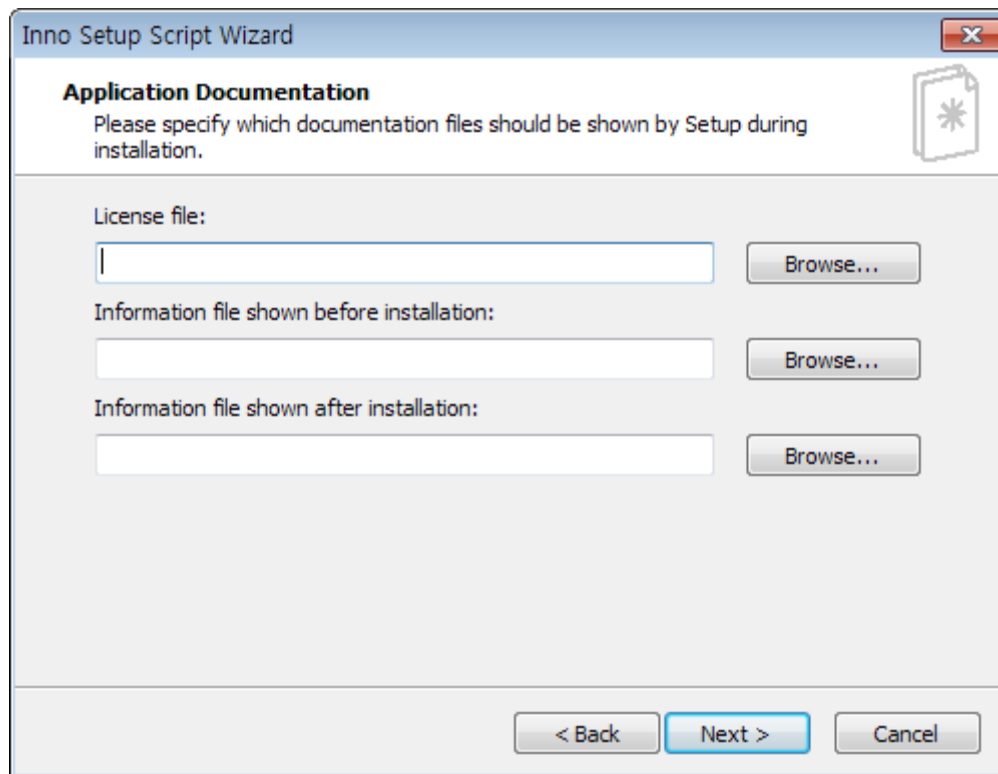


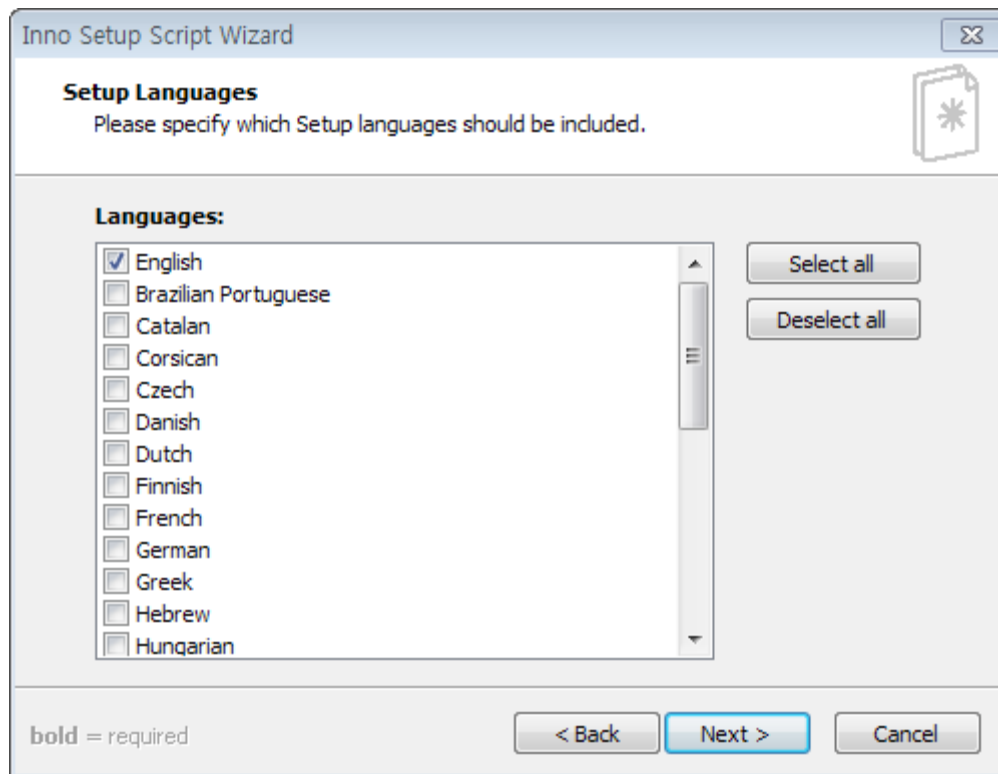
파일 폴더의 추가











Inno Setup Script Wizard

Compiler Settings

Please specify some basic compiler settings.

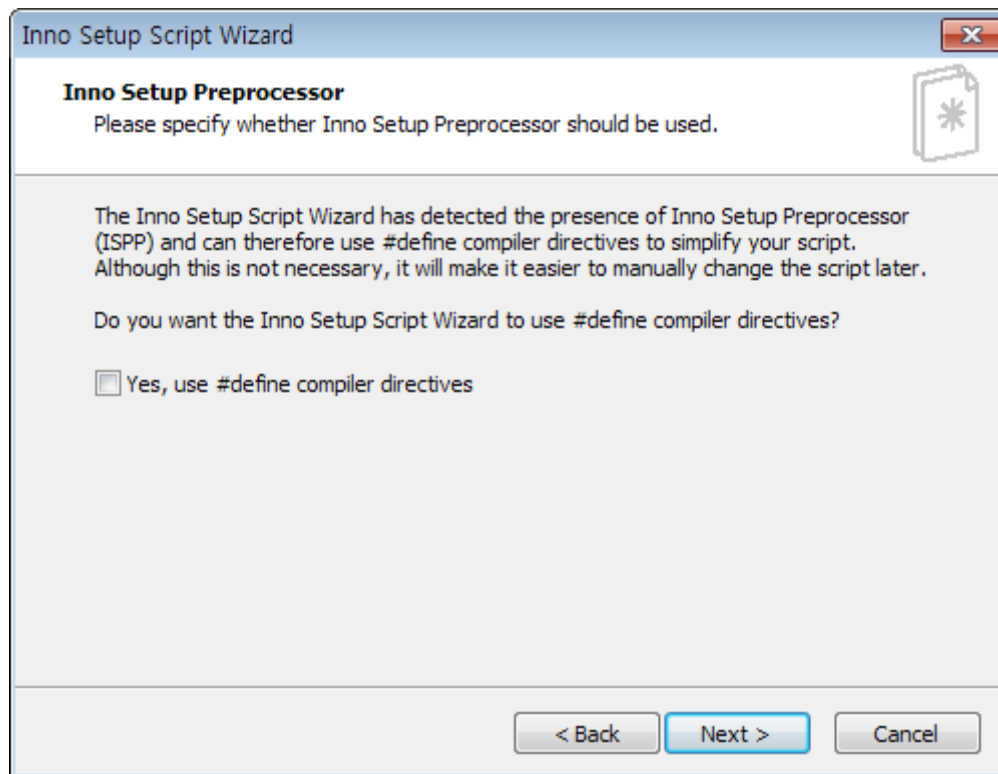
Custom compiler output folder:

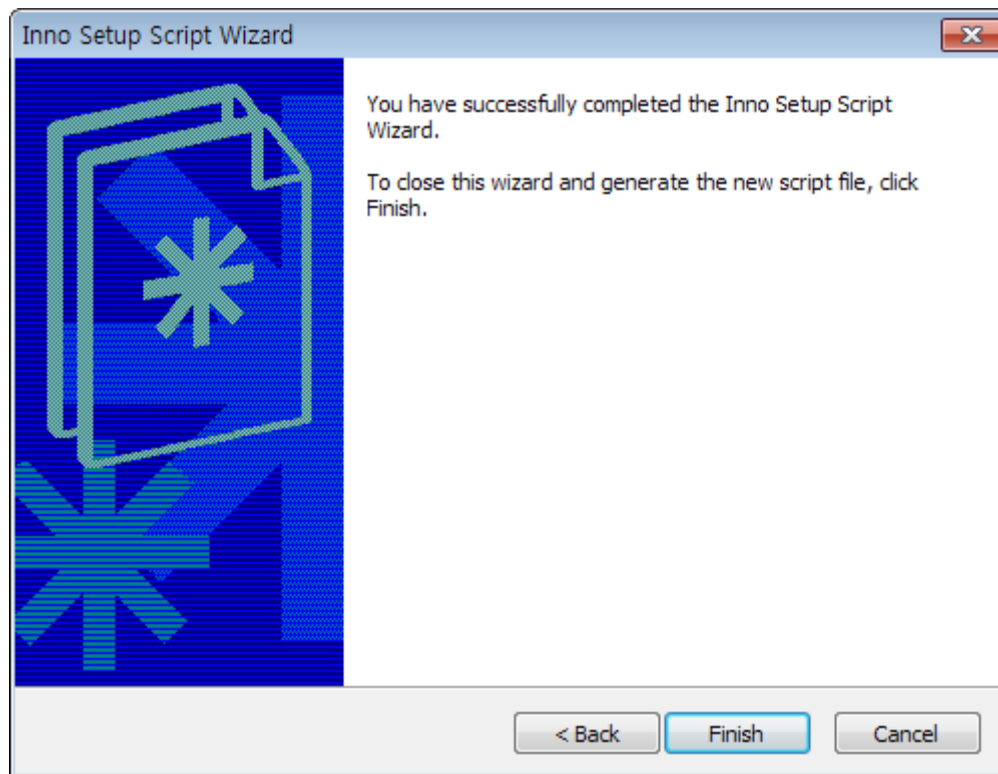
Compiler output base file name:

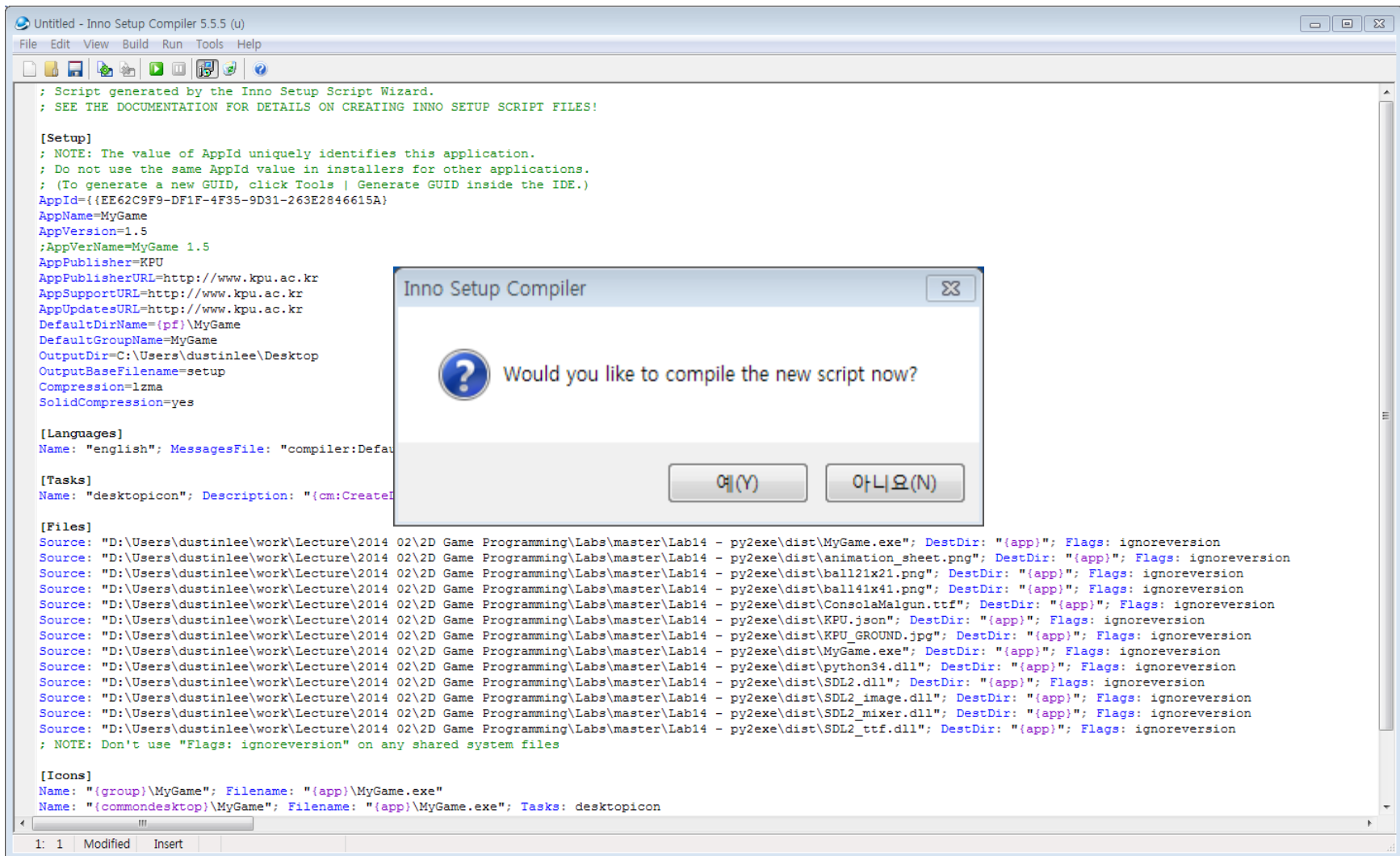
Custom Setup icon file:

Setup password:

< Back Next > Cancel







생성된 셋업 파일




```
; "ArchitecturesAllowed=x64" specifies that Setup cannot run on  
; anything but x64.  
ArchitecturesAllowed=x64  
; "ArchitecturesInstallIn64BitMode=x64" requests that the install be  
; done in "64-bit mode" on x64, meaning it should use the native  
; 64-bit Program Files directory and the 64-bit view of the registry.  
ArchitecturesInstallIn64BitMode=x64
```