

Lecture #19. 게임 패키징

2D 게임 프로그래밍

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학습 내용


















- PyInstaller 를 이용한 실행 파일 building
- Installer의 제작

mygame.py가 실행되기 위해 필요로 하는 것들... (1)

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

mygame.py가 실행되기 위해 필요로 하는 것들...(2)

- Pico2d 데이터 파일
- SDL 라이브러리 DLL

 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

pico2d update(콘솔창에서)

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

시스템

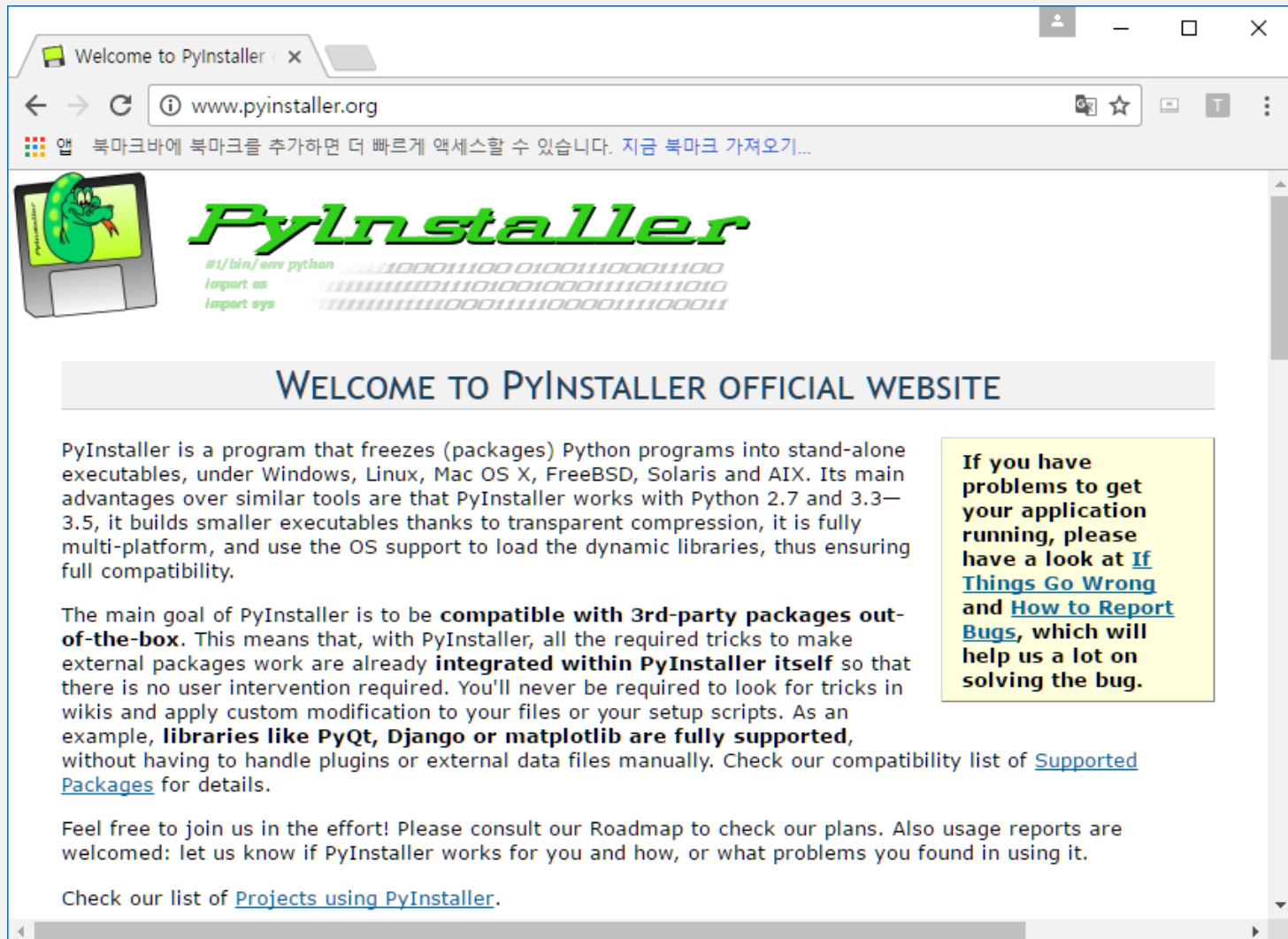


mygame.py 를

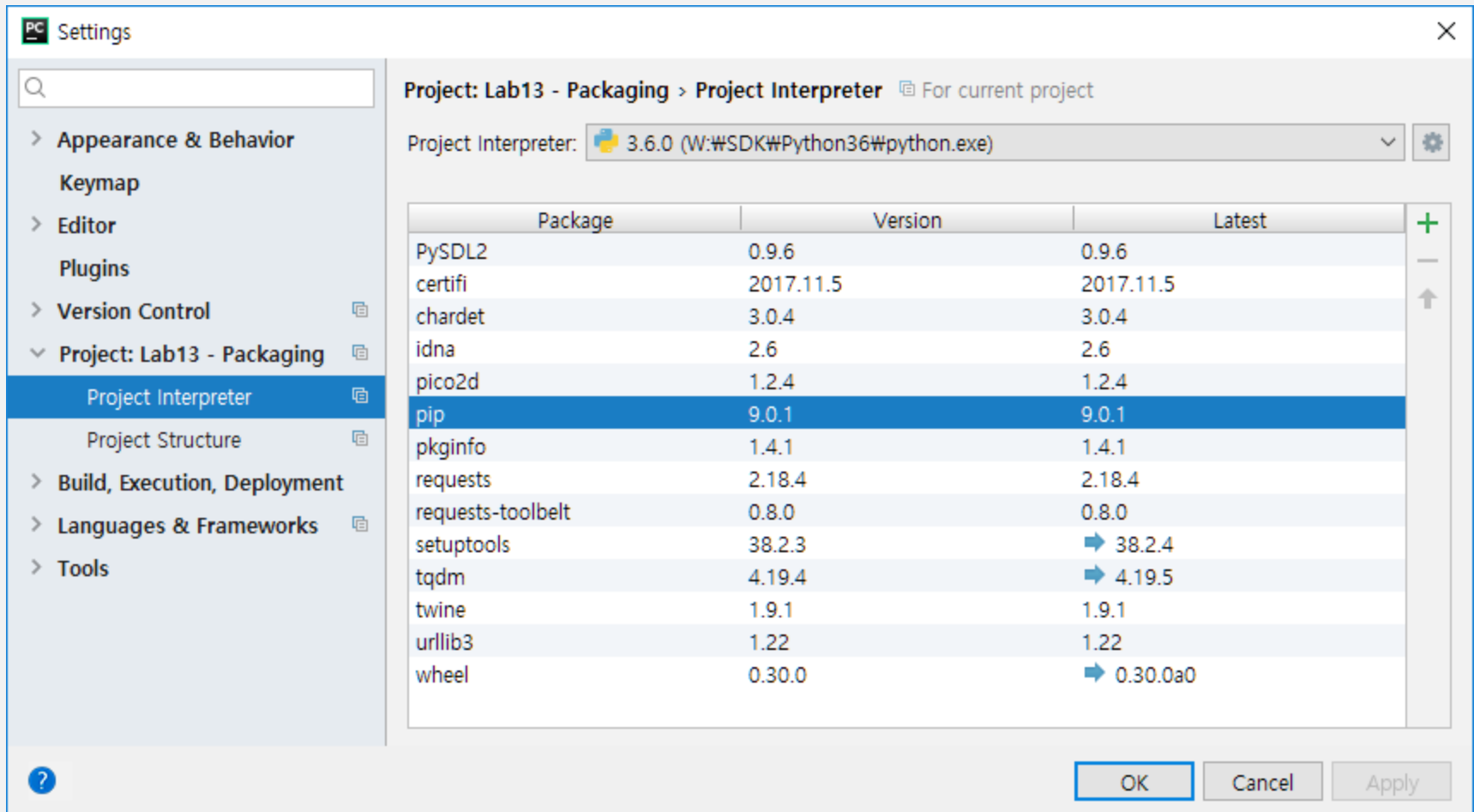
Mygame.exe 로 변환

PyInstaller

■ <http://www.pyinstaller.org/>






PyCharm: pip 설치 확인



Settings

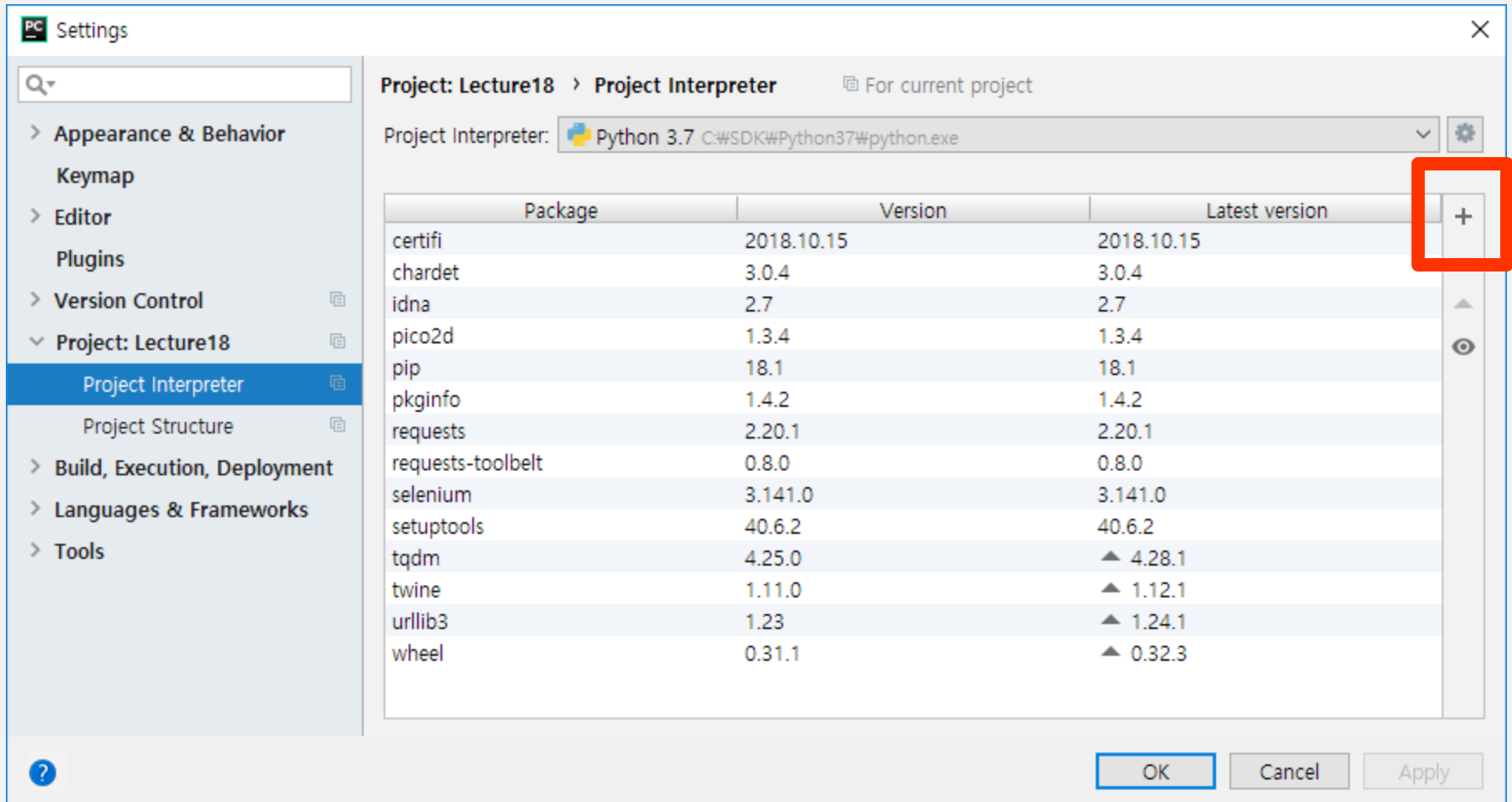
Project: Lab13 - Packaging > Project Interpreter For current project

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

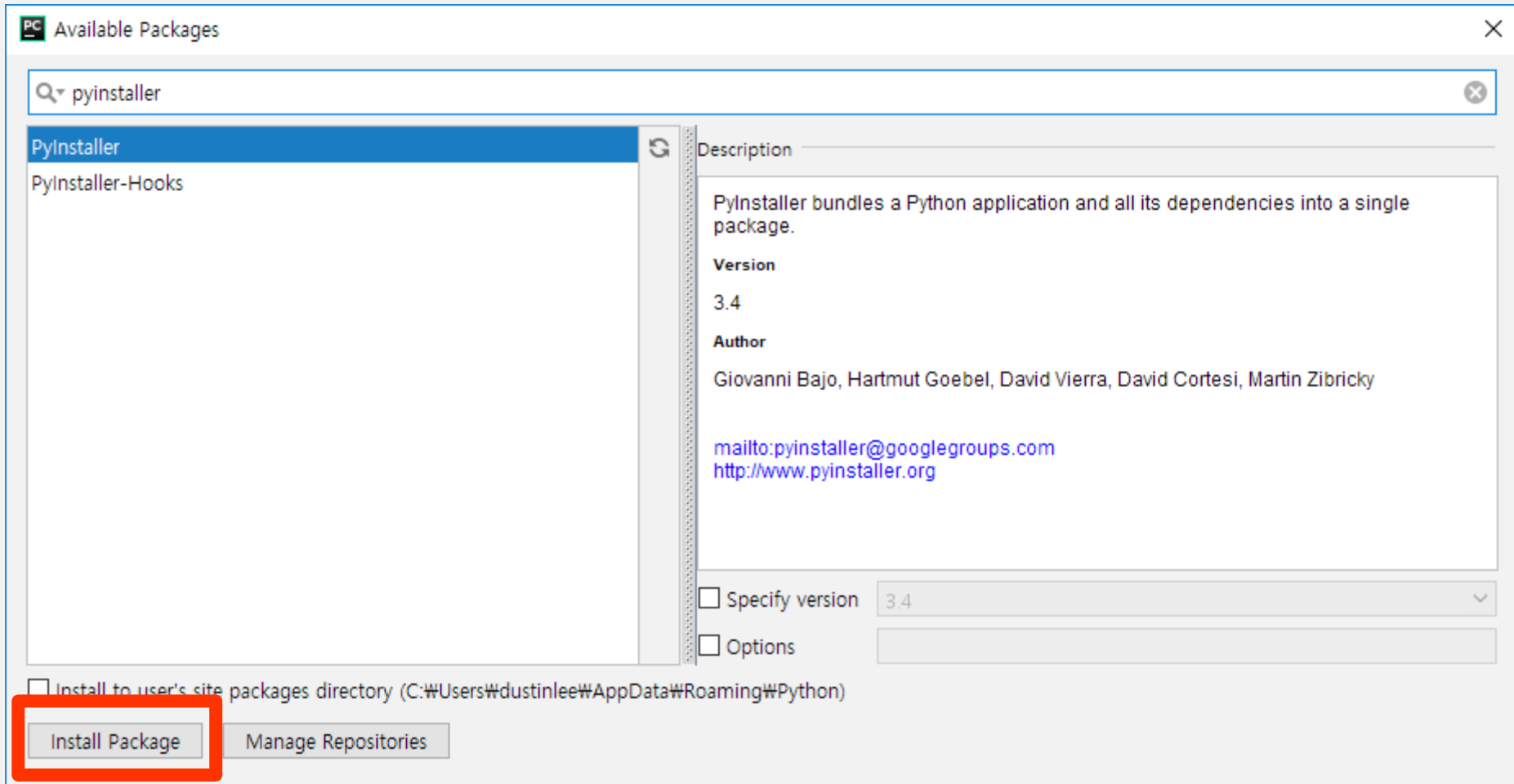
Package	Version	Latest	
PySDL2	0.9.6	0.9.6	+
certifi	2017.11.5	2017.11.5	-
chardet	3.0.4	3.0.4	↑
idna	2.6	2.6	
pico2d	1.2.4	1.2.4	
pip	9.0.1	9.0.1	
pkginfo	1.4.1	1.4.1	
requests	2.18.4	2.18.4	
requests-toolbelt	0.8.0	0.8.0	
setuptools	38.2.3	➡ 38.2.4	
tqdm	4.19.4	➡ 4.19.5	
twine	1.9.1	1.9.1	
urllib3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

OK Cancel Apply

PyCharm: pip 설치 및 version upgrade



PyCharm: PyInstaller 설치



PyCharm: PyInstaller 설치 확인

Settings

Project: Lecture18 > Project Interpreter For current project

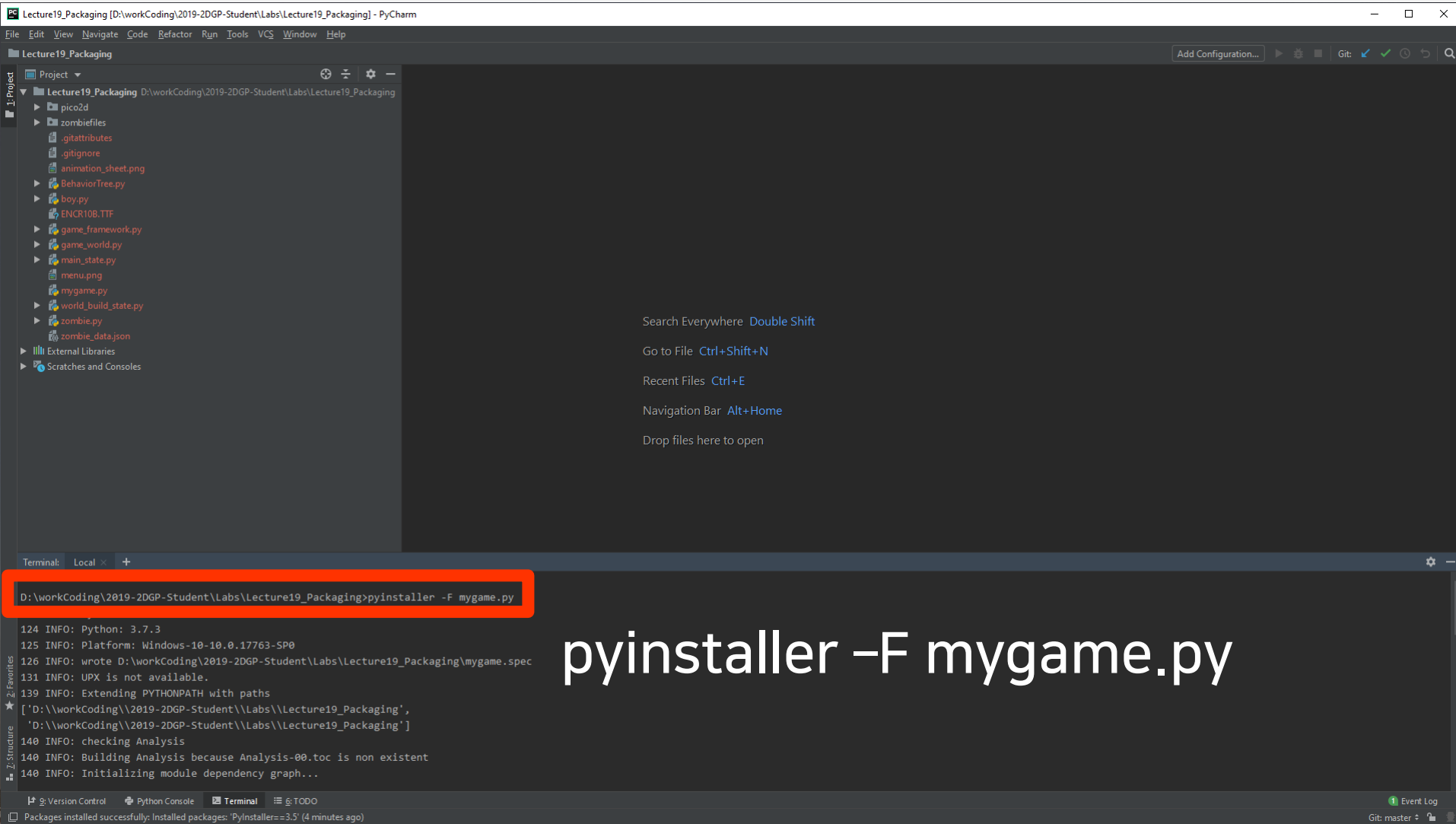
Project Interpreter: Python 3.7 C:\SDK\Python37\python.exe

Package	c:\sdk\python37\lib\site-packages	Latest version
PyInstaller	3.4	3.4
altgraph	0.16.1	0.16.1
certifi	2018.10.15	2018.10.15
chardet	3.0.4	3.0.4
future	0.17.1	0.17.1
idna	2.7	2.7
macholib	1.11	1.11
pefile	2018.8.8	2018.8.8
pico2d	1.3.4	1.3.4
pip	18.1	18.1
pkginfo	1.4.2	1.4.2
pywin32-ctypes	0.2.0	0.2.0
requests	2.20.1	2.20.1
requests-toolbelt	0.8.0	0.8.0
selenium	3.141.0	3.141.0

Package 'PyInstaller' installed successfully

OK Cancel Apply

View → Tool Windows → Terminal 을 열고,



The screenshot shows the PyCharm IDE interface. The top menu bar includes File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, and Help. The left sidebar shows the Project view with the 'Lecture19_Packaging' project selected. The main editor area is empty, displaying search shortcuts like 'Search Everywhere Double Shift', 'Go to File Ctrl+Shift+N', 'Recent Files Ctrl+E', 'Navigation Bar Alt+Home', and 'Drop files here to open'. The bottom panel shows the Terminal window with the command `D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging>pyinstaller -F mygame.py` and its output:

```
124 INFO: Python: 3.7.3
125 INFO: Platform: Windows-10-10.0.17763-SP0
126 INFO: wrote D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging\mygame.spec
131 INFO: UPX is not available.
139 INFO: Extending PYTHONPATH with paths
['D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging',
'D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging']
140 INFO: checking Analysis
140 INFO: Building Analysis because Analysis-00.toc is non existent
140 INFO: Initializing module dependency graph...
```

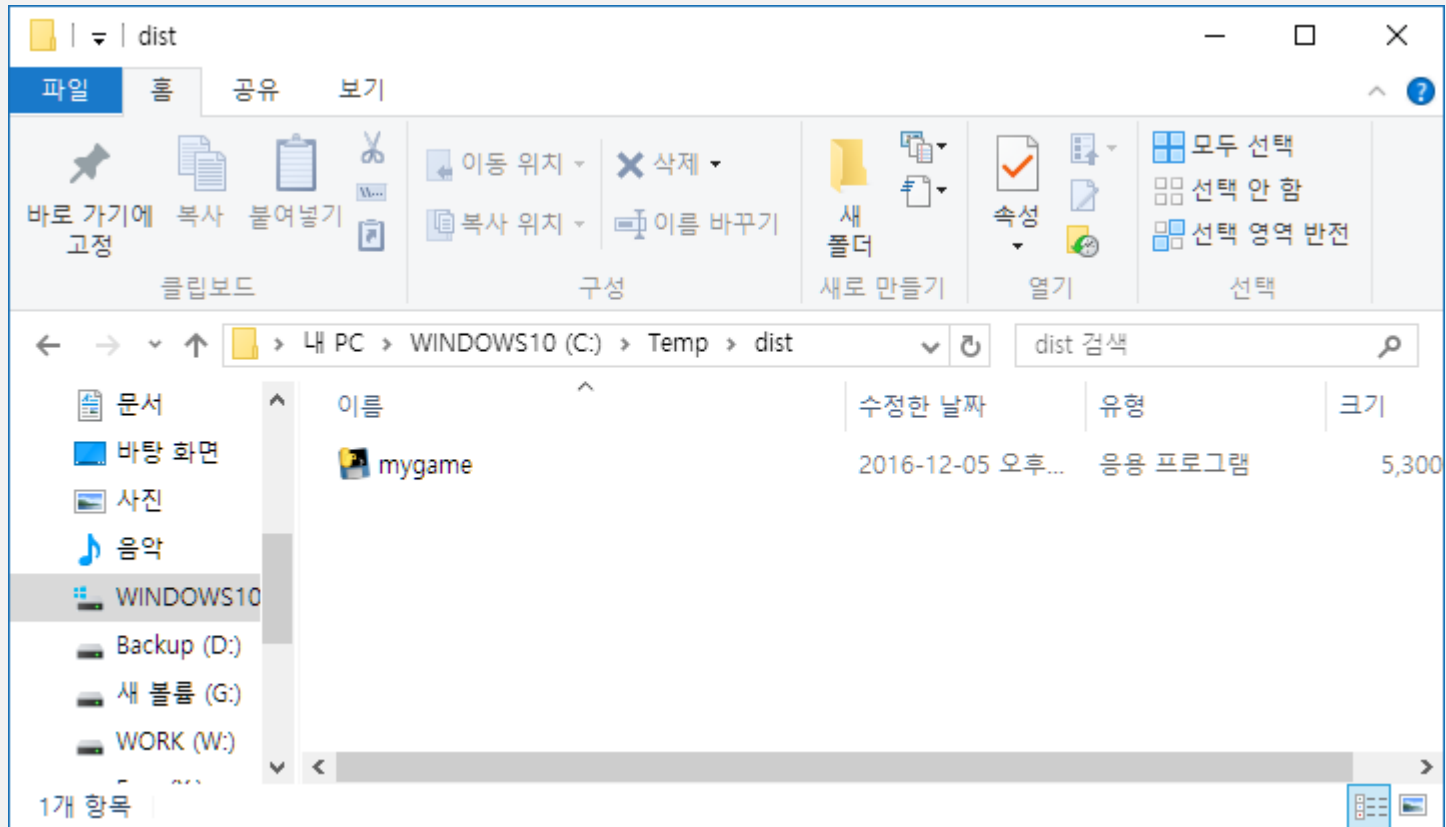
The bottom status bar shows 'Packages installed successfully: Installed packages: 'Pyinstaller==3.5' (4 minutes ago)' and 'Git: master'.

pyinstaller -F mygame.py

```
Terminal: Local × +
7842 INFO: Building PYZ (ZlibArchive) D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging\build\mygame\PYZ-00.pyz completed successfully.
7855 INFO: checking PKG
7856 INFO: Building PKG because PKG-00.toc is non existent
7856 INFO: Building PKG (CArchive) PKG-00.pkg
10303 INFO: Building PKG (CArchive) PKG-00.pkg completed successfully.
10309 INFO: Bootloader c:\python37\lib\site-packages\PyInstaller\bootloader\Windows-64bit\run.exe
10310 INFO: checking EXE
10310 INFO: Building EXE because EXE-00.toc is non existent
10311 INFO: Building EXE from EXE-00.toc
10312 INFO: Appending archive to EXE D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging\dist\mygame.exe
10399 INFO: Building EXE from EXE-00.toc completed successfully.

D:\workCoding\2019-2DGP-Student\Labs\Lecture19_Packaging>
```

dist 폴더에 만들어진, mygame.exe



여기서 그냥 단독 실행하면, 제대로 실행이 되지 않음.
Mygame.exe가 필요로 하는 외부 파일을 찾을 수 없기 때문.

리소스 및 필요 DLL 을 dist 폴더로 복사해야 함.








■ Pico2d 라이브러리 파일

- /pico2d 폴더에 담겨 있음.

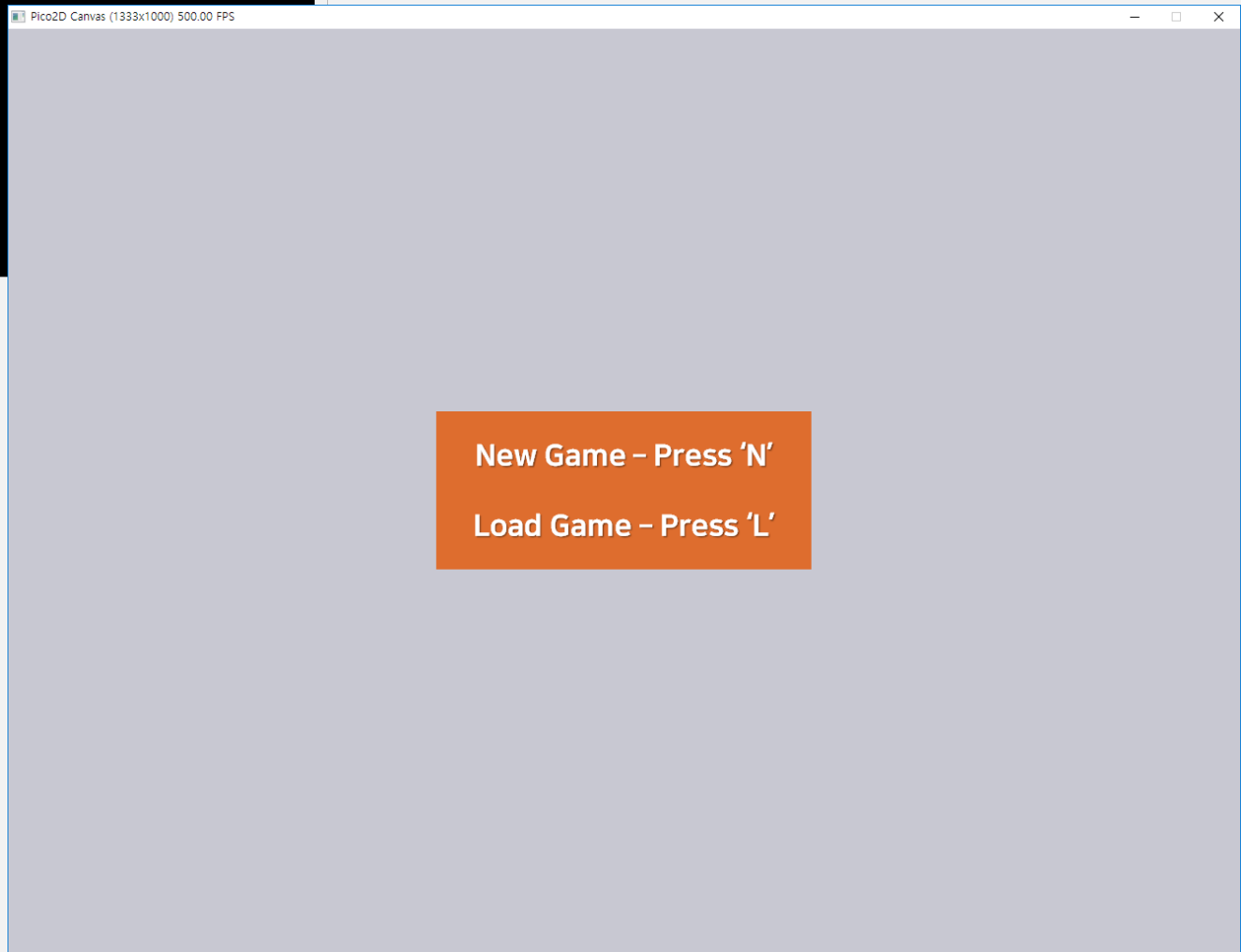
■ 게임에 따라 필요한 리소스 파일

- 현재 실습 파일의 경우,
 - 폰트 - ENCR10B.TTF
 - 메뉴 이미지 - menu.png
 - 애니메이션 스프라이트 이미지 - animation_sheet.png
 - 좀비 데이터 JSON 파일 - zombie_data.json

dist 폴더: 여기서 mygame.exe 을 클릭하면 실행!

Work (W:) > workCoding > 2DGP-Master > Labs > Lecture18 > dist >				
<input type="checkbox"/> 이름	수정한 날짜	유형	크기	
 pico2d	2018-11-27 오전...	파일 폴더		
 zombiefiles	2018-11-27 오전...	파일 폴더		
 animation_sheet.png	2018-10-23 오전...	알씨 PNG 파일	64KB	
 ENCR10B.TTF	2018-09-15 오후...	트루타입 글꼴 파일	43KB	
 menu.png	2018-11-25 오후...	알씨 PNG 파일	11KB	
 mygame.exe	2018-11-27 오전...	응용 프로그램	5,815KB	
 zombie_data.json	2018-11-26 오전...	JSON File	1KB	

실행 결과



콘솔창을 없애려면?

`Pyinstaller -F --windowed mygame.py`

파이썬 코드 최적화

```
python -O -m PyInstaller -F mygame.py
```

시스템



Installer를 이용한
설치 파일 제작

Inno Setup 의 설치

Inno Setup Downloads

← → ↺ ⓘ 주의 요함 | jrsoftware.org/isdl.php

앱

python - TTK them...

네이버 예약

18035121
visitors since
Jan. 1998

- 6.0: [Event attributes](#), making it possible to have multiple implementations of the same event function in your script.
- 6.0: Support for 64-bit mode on Windows 10 on ARM.
- 6.0: [Task dialog](#) support for the [Code] section.

OS requirements change: Windows 2000, XP, and Server 2003 are no longer supported. Windows Vista is the minimum supported operating system.

Change in default behavior: Starting with Inno Setup 6 there's only one version available: Unicode Inno Setup. Unicode Inno Setup has been available for 9 years but in case you have not yet updated to it: please see the [Unicode Inno Setup](#) topic in the help file for more information. Basically, unless you're using [Code] to make DLL calls with string parameters you shouldn't have to make any changes to your script.

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

Filename	Download Sites	DLs	Date	Description
innosetup-6.0.3.exe	Random site US Netherlands	154,057	2019-10-11	Unicode Inno Setup self-installing package .

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

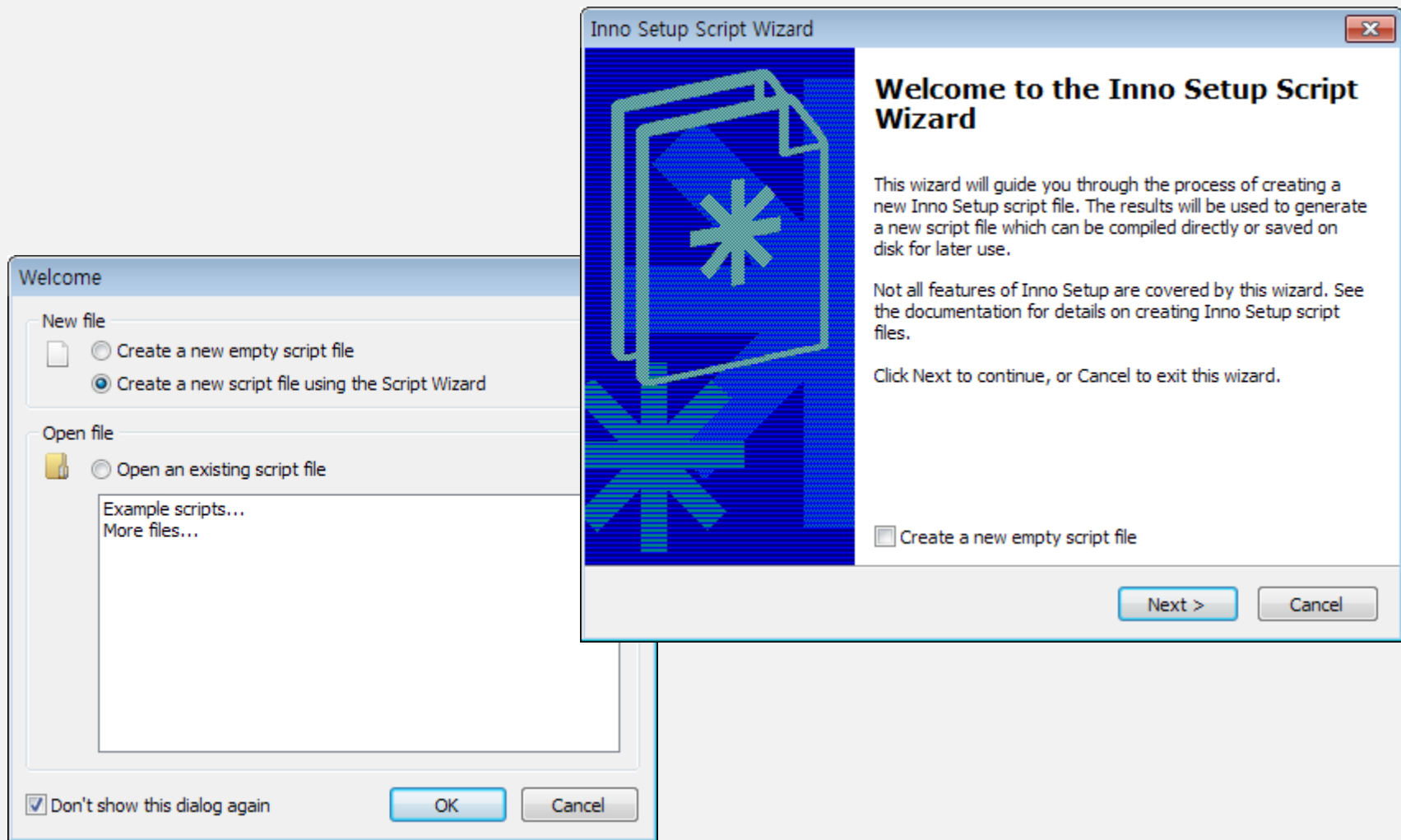
QuickStart Pack

The Inno Setup QuickStart Pack includes Inno Setup itself and additionally includes an option to install the Inno Script Studio script editor. This script editor is not official and is not required for general usage, but makes Inno Setup easier to use. See the [Third-Party Files](#) page for more information.

The Inno Setup QuickStart Pack also includes an option to download and install official encryption support.

Filename	Download Sites	DLs	Date	Description
innosetup-qsp-6.0.3.exe	Random site US	11,010	2019-10-11	Unicode Inno Setup QuickStart Pack self-installing package .

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:

MyGame89418022

☒ Allow user to change the application folder

Other:

☐ The application doesn't need a folder

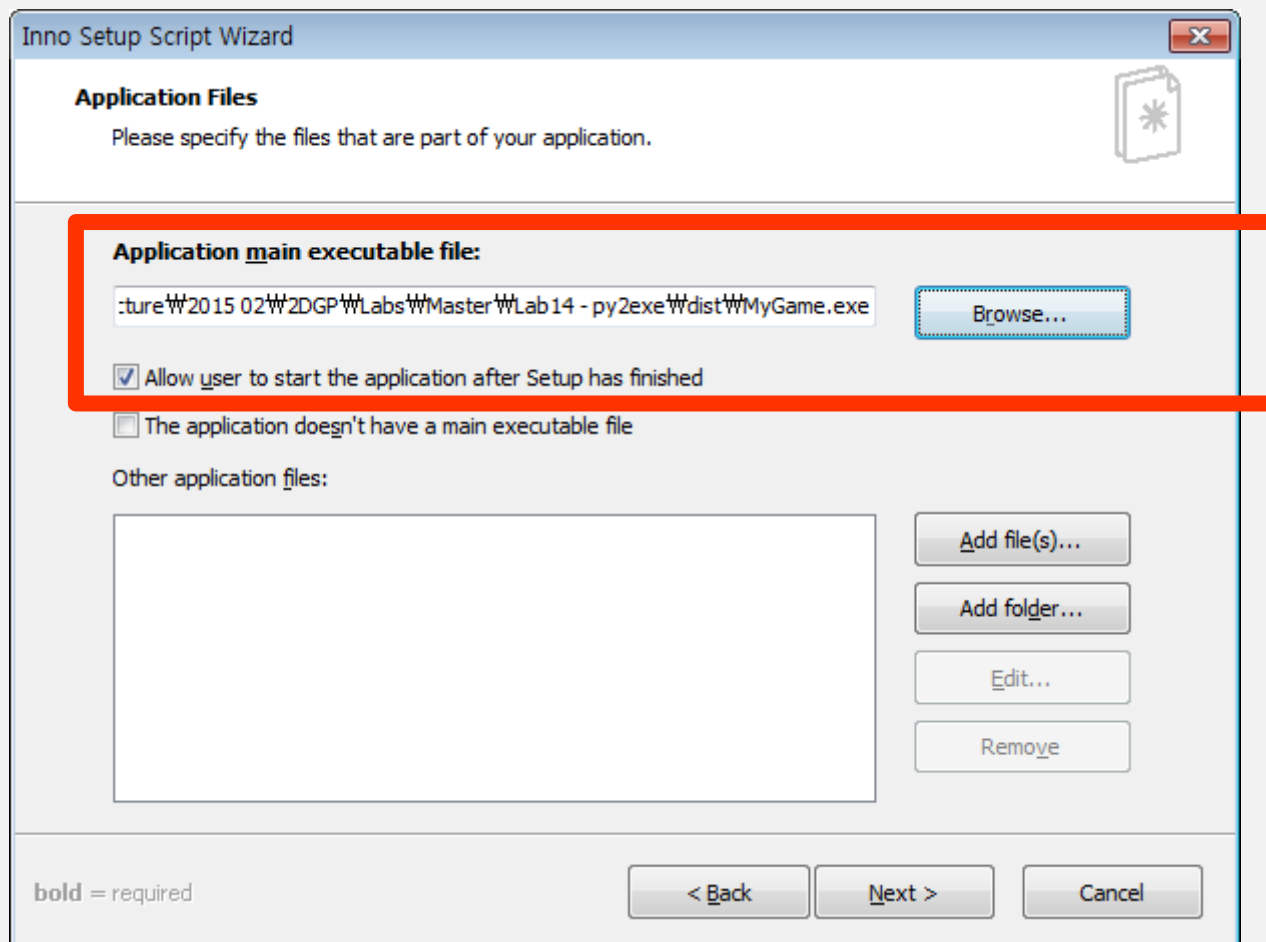
bold = required

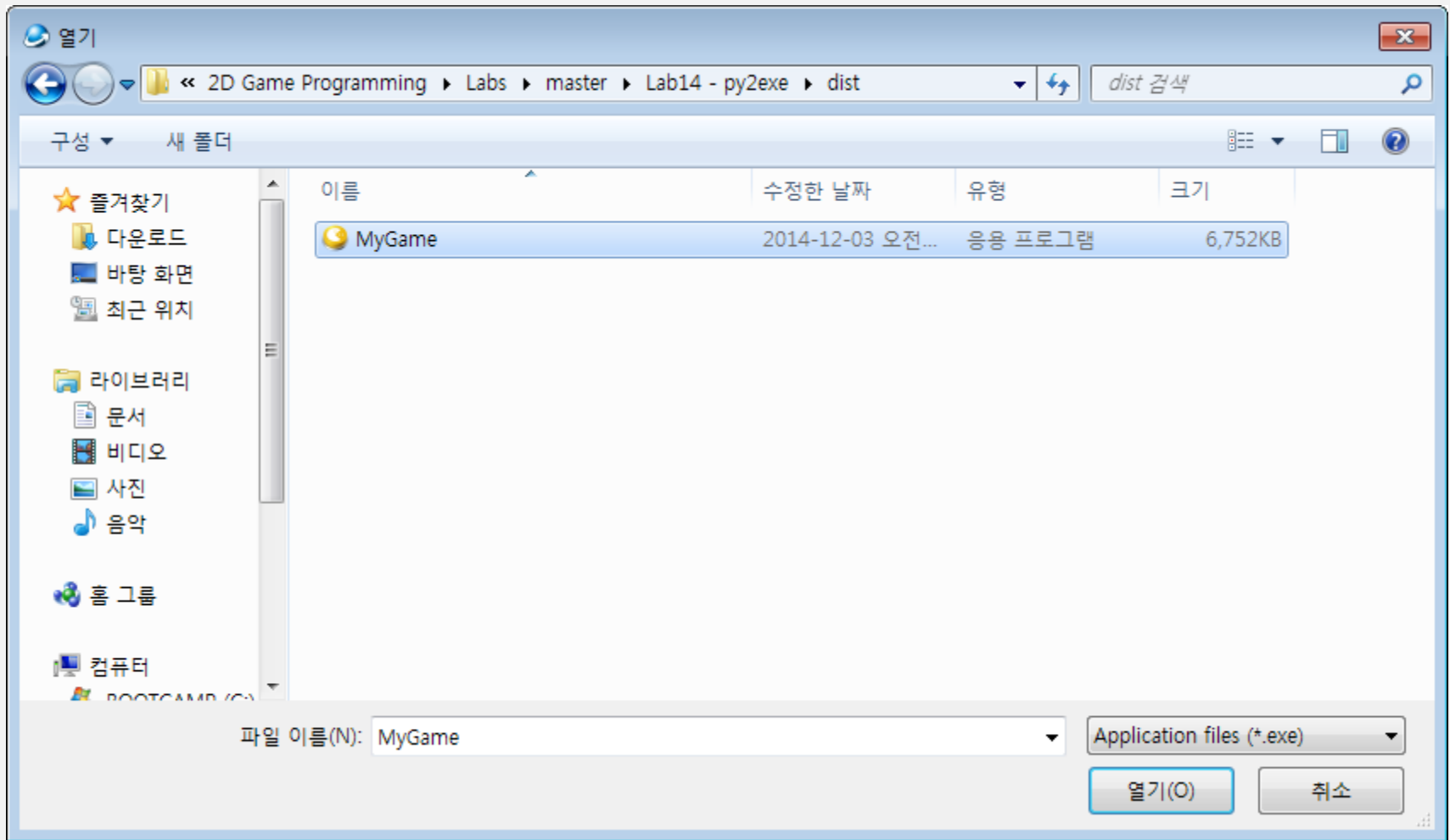
< Back Next > Cancel

프로그램이 설치될 폴더.

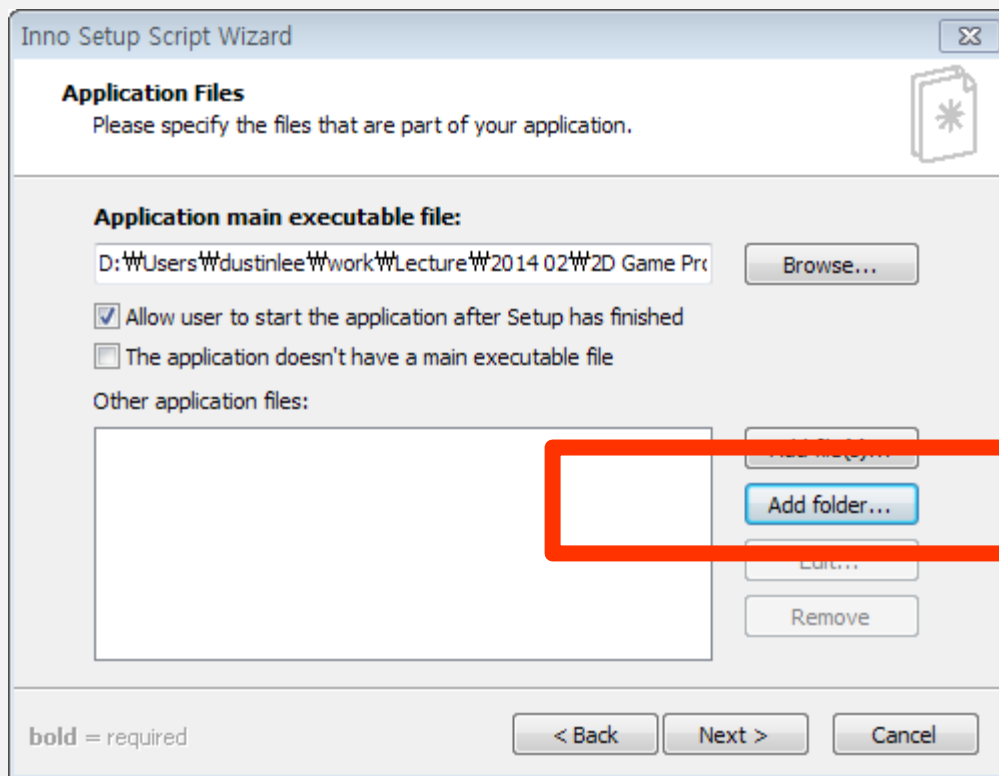
프로젝트 발표를 위해서, 학번으로 구별하는 것이 좋음.

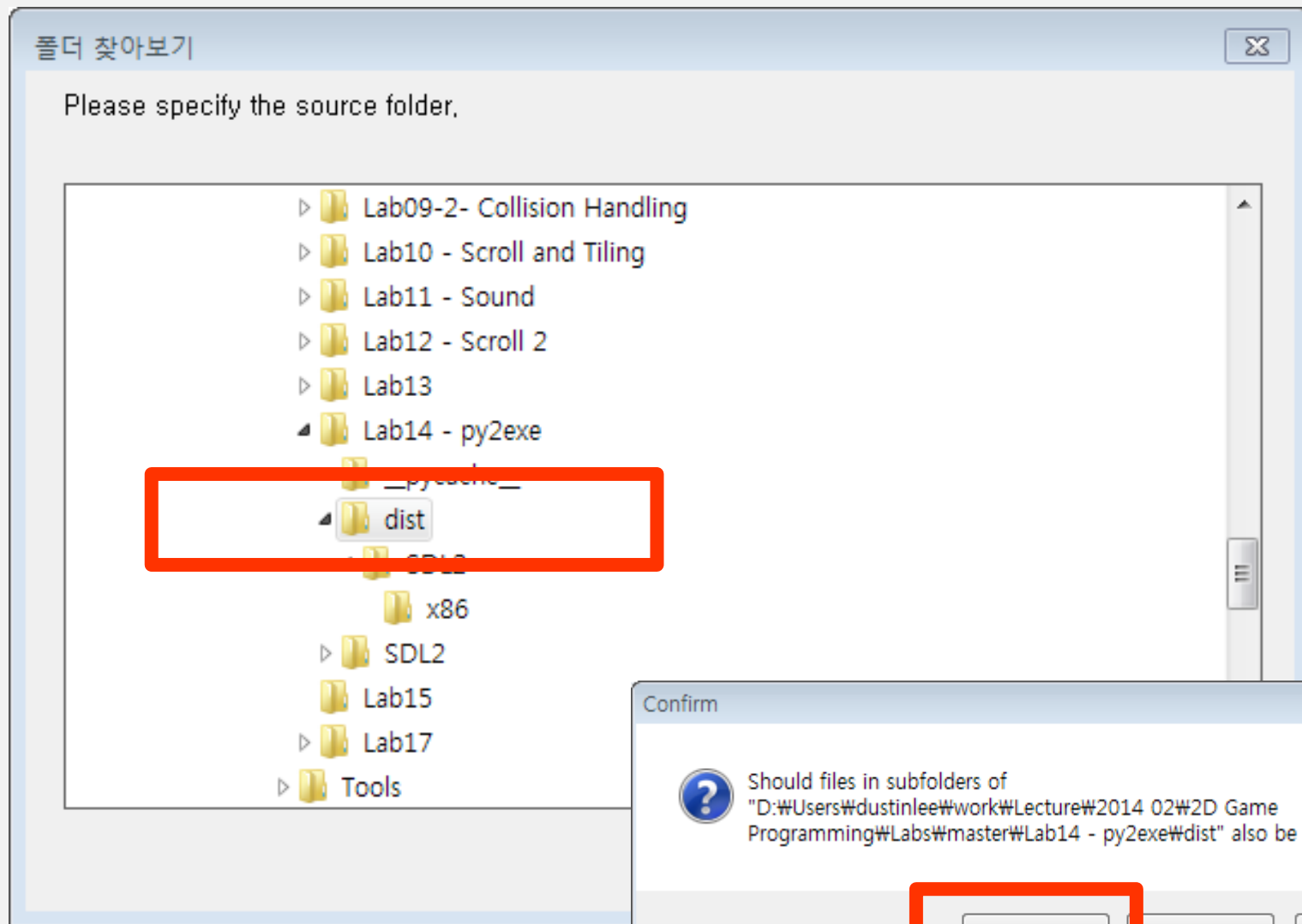
exe 파일의 추가






파일 폴더의 추가





Inno Setup Script Wizard

✕



Application Shortcuts

Please specify which shortcuts should be created for your application.

☒ Create a shortcut to the main executable in the common Start Menu Program Application Start Menu folder name:

MyGame

☒ Allow user to change the Start Menu folder name

☐ Allow user to disable Start Menu folder creation

☐ Create an Internet shortcut in the Start Menu folder

☐ Create an Uninstall shortcut in the Start Menu folder

Other shortcuts to the main executable:

☒ Allow user to create a desktop shortcut

☐ Allow user to create a Quick Launch shortcut on older versions of Windows

bold = required

< Back

Next >


Cancel

Inno Setup Script Wizard

✕

Application Documentation

Please specify which documentation files should be shown by Setup during installation.



License file:

Browse...

Information file shown before installation:

Browse...

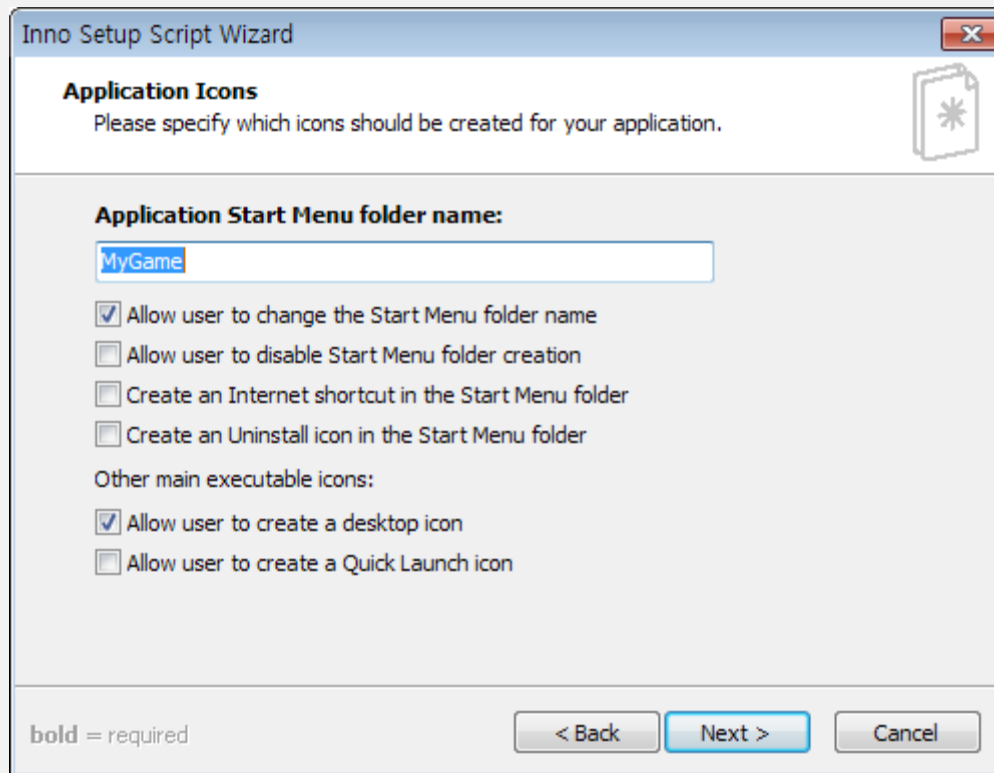
Information file shown after installation:

Browse...

< Back


Next >

Cancel



Inno Setup Script Wizard

✕



Compiler Settings

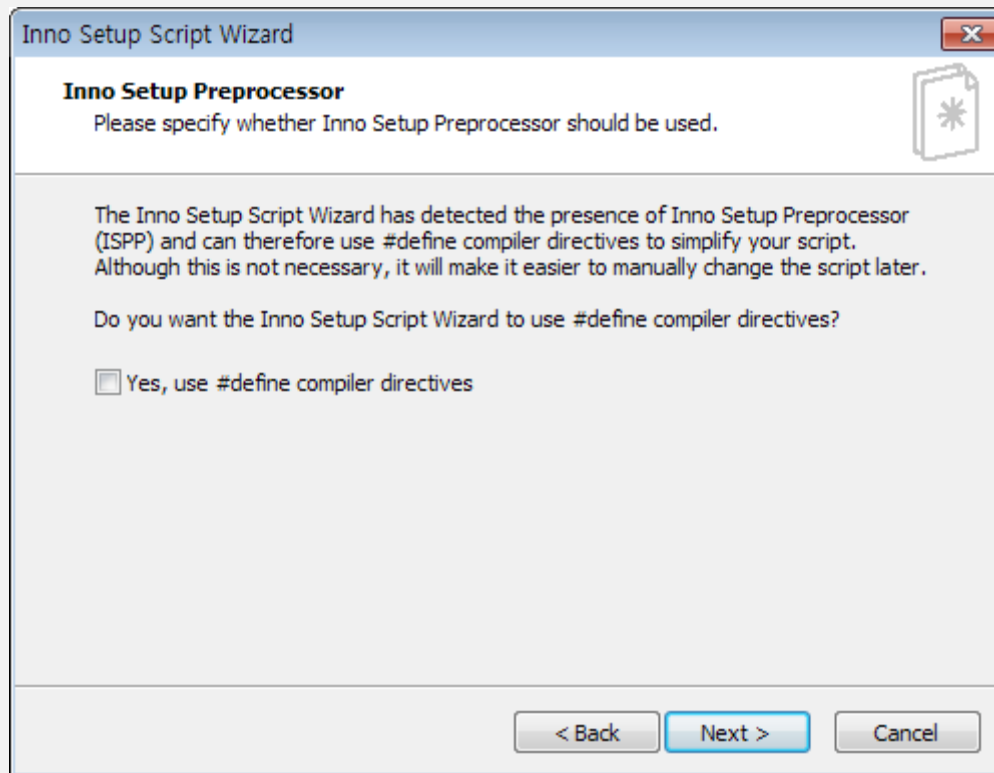
Please specify some basic compiler settings.

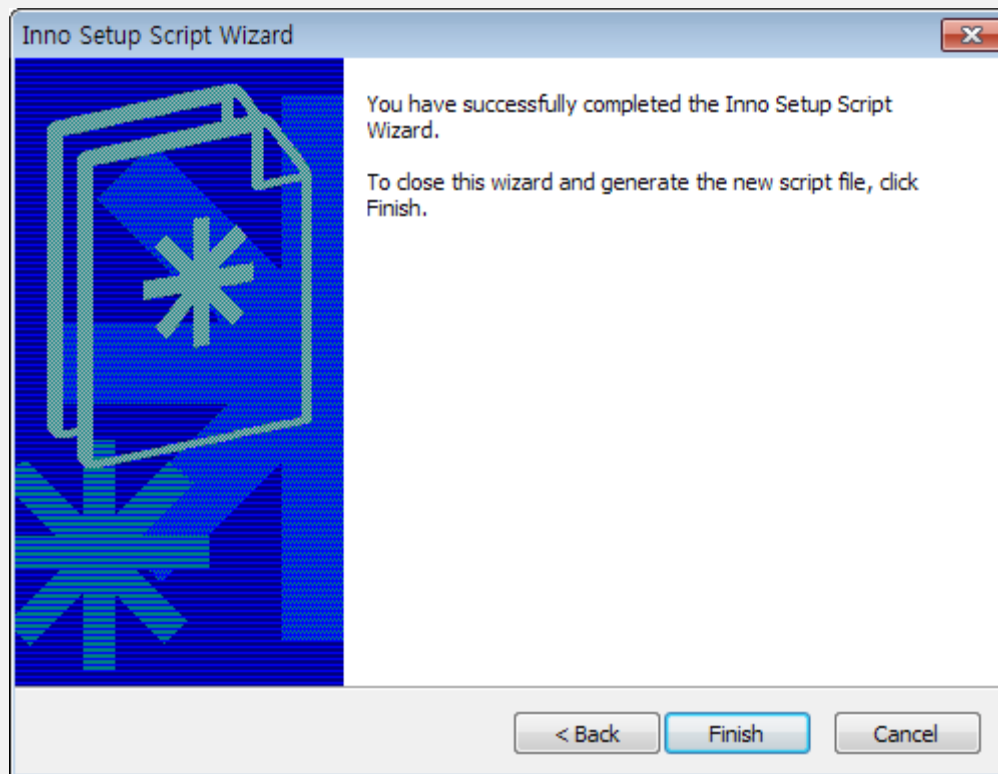
Custom compiler output folder:

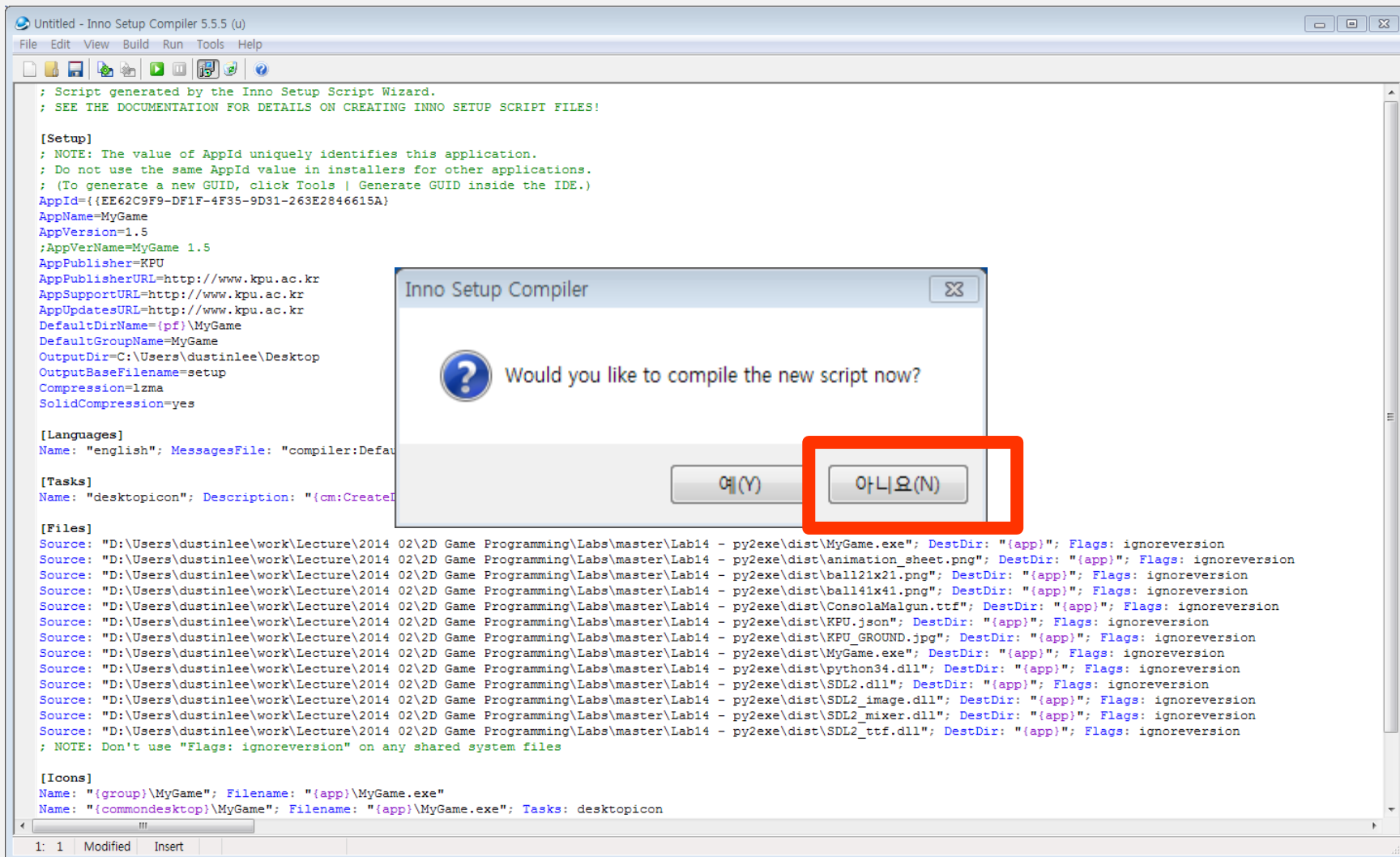
Compiler output base file name:

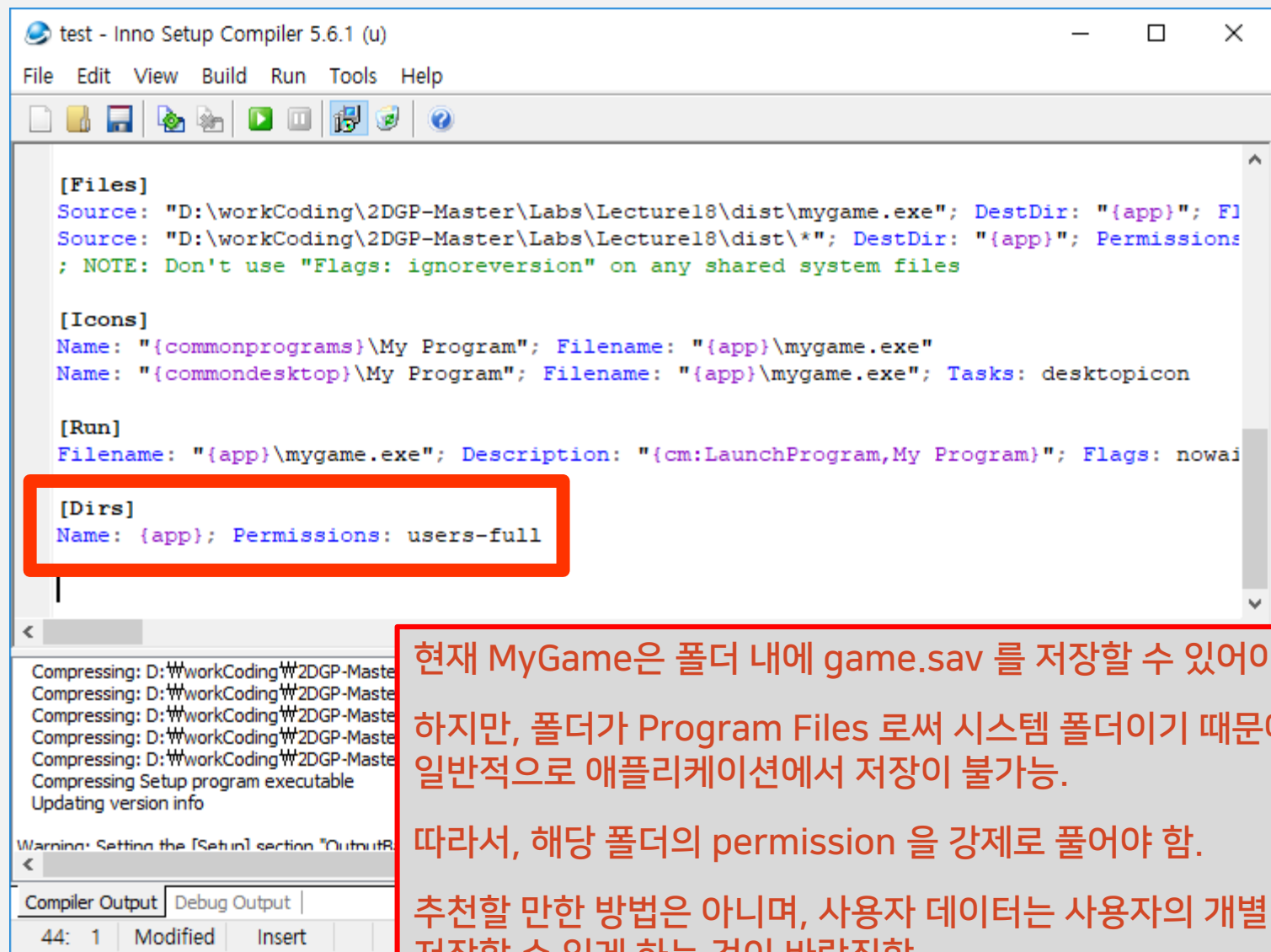
Custom Setup icon file:

Setup password:







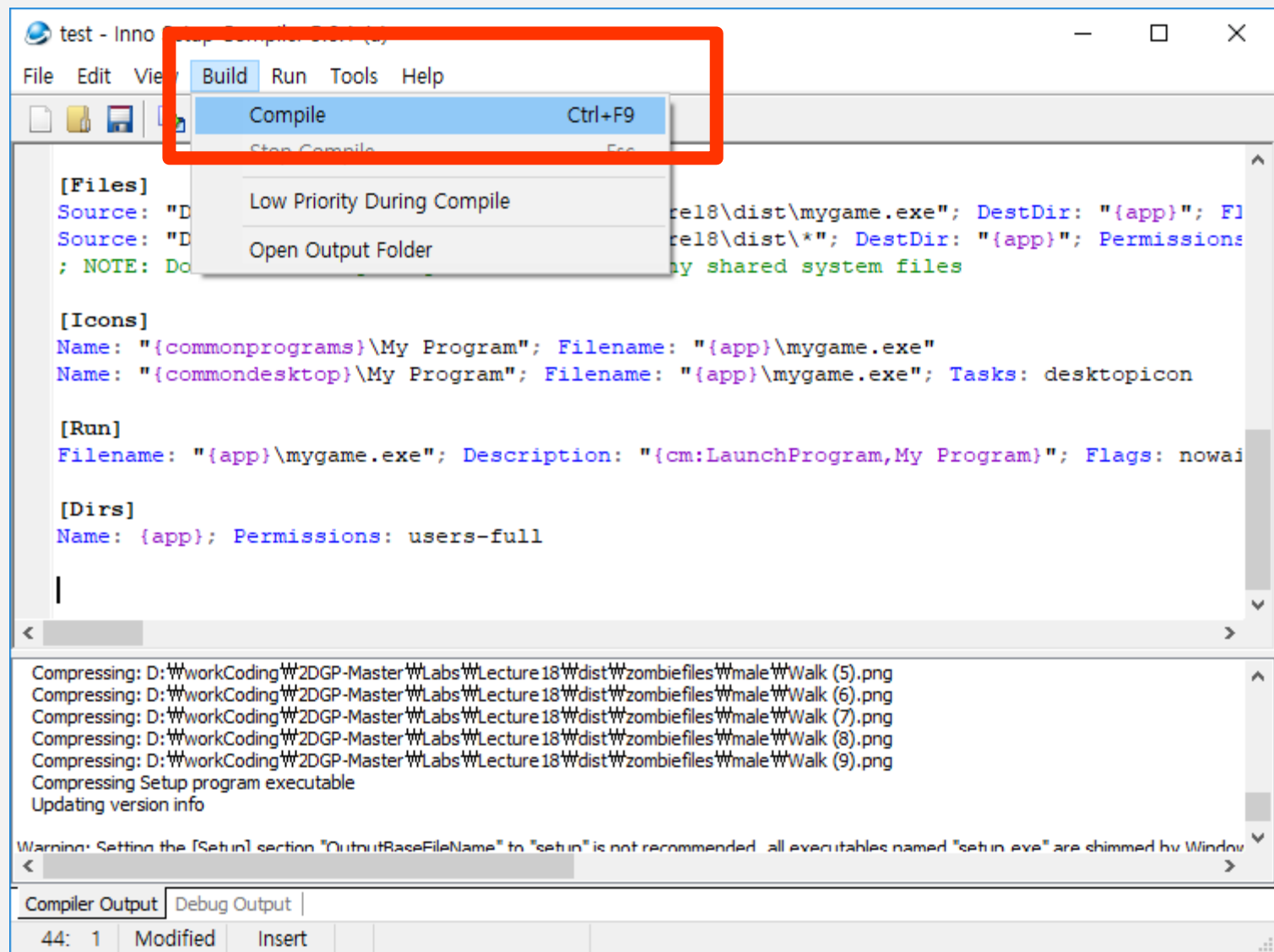


현재 MyGame은 폴더 내에 game.sav 를 저장할 수 있어야 함.

하지만, 폴더가 Program Files 로써 시스템 폴더이기 때문에, 일반적으로 애플리케이션에서 저장이 불가능.

따라서, 해당 폴더의 permission 을 강제로 풀어야 함.

추천할 만한 방법은 아니며, 사용자 데이터는 사용자의 개별 폴더에 저장할 수 있게 하는 것이 바람직함.



생성된 셋업 파일

