
Introduction to Software Design

Lab1: Python Environment Setting for Lectures & Assignments

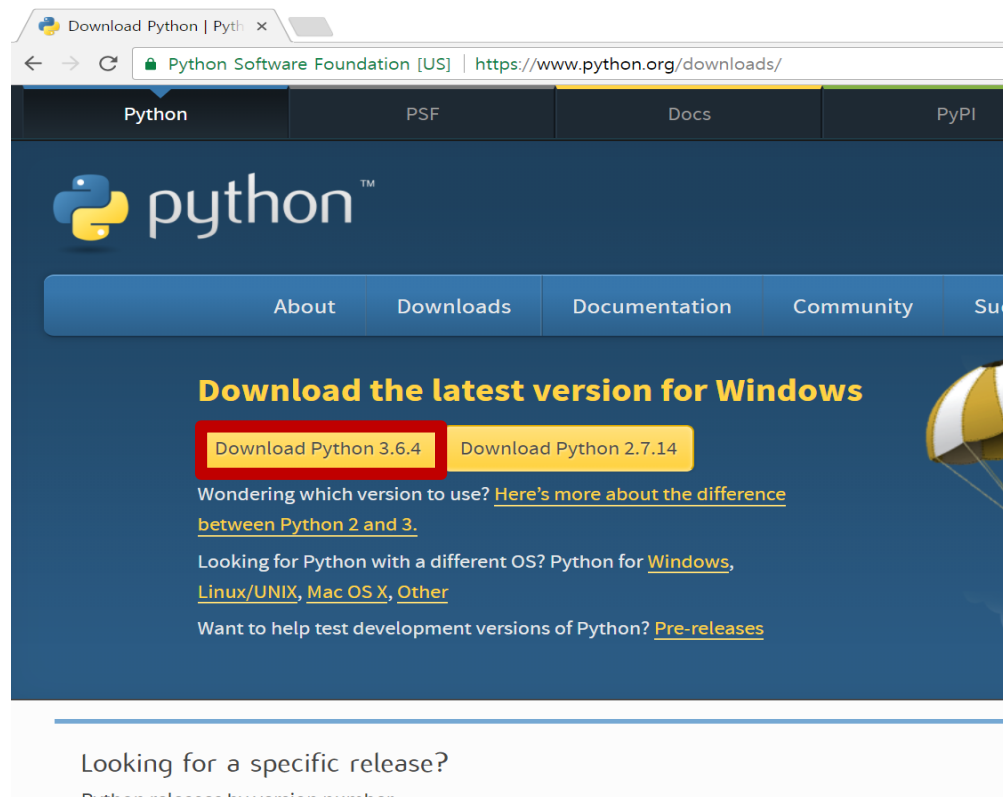
Tae Hyun Kim
Spring 2020

Development Environment

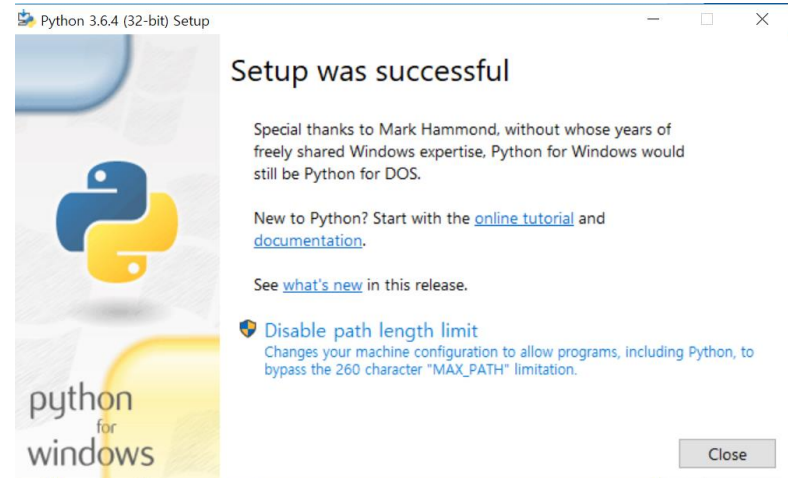
- Development environment for this course:
- Python : Python **3** on any OSs
- C: gcc on Ubuntu

Installing Python (Windows)

- Downloading Python
 - Official website: <http://www.python.org>
 - Download & install the latest version.



Installing Python (Windows)

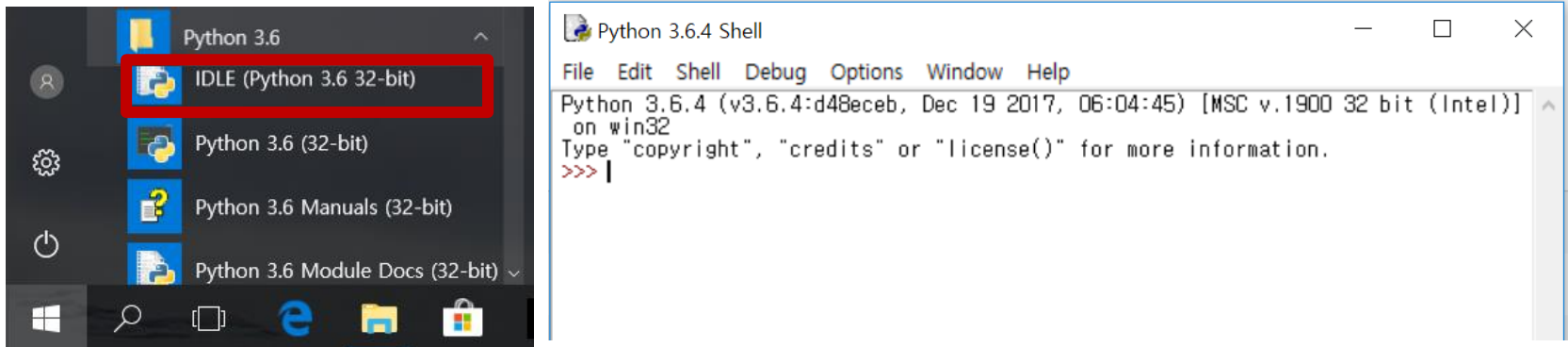


Installing Python (Ubuntu)

- Ubuntu 16.04+ is shipped with Python 2 & Python 3.
- You don't need to install Python.

IDLE

- : Python's **I**ntegrated **D**evelopment and **L**earning **E**nvironment.
 - Provides both interactive & non-interactive mode.
- Windows: Installed with Python interpreter.

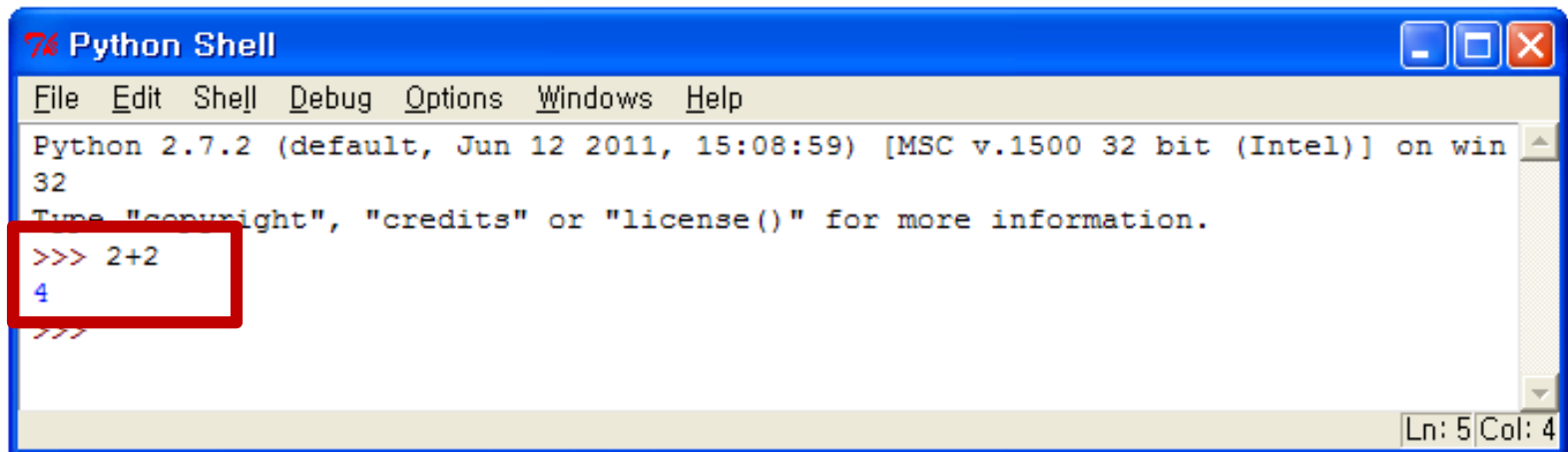


- Ubuntu: You need to install IDLE by

```
$ sudo apt-get install idle-python3.x (자신의 버전에 맞게)
```

IDLE - Interactive Mode

- Some Simple Math Stuff
 - Type **2+2** into the shell and press the **Enter** key.
 - Computer should respond with the number **4**.
: the sum of **2+2**

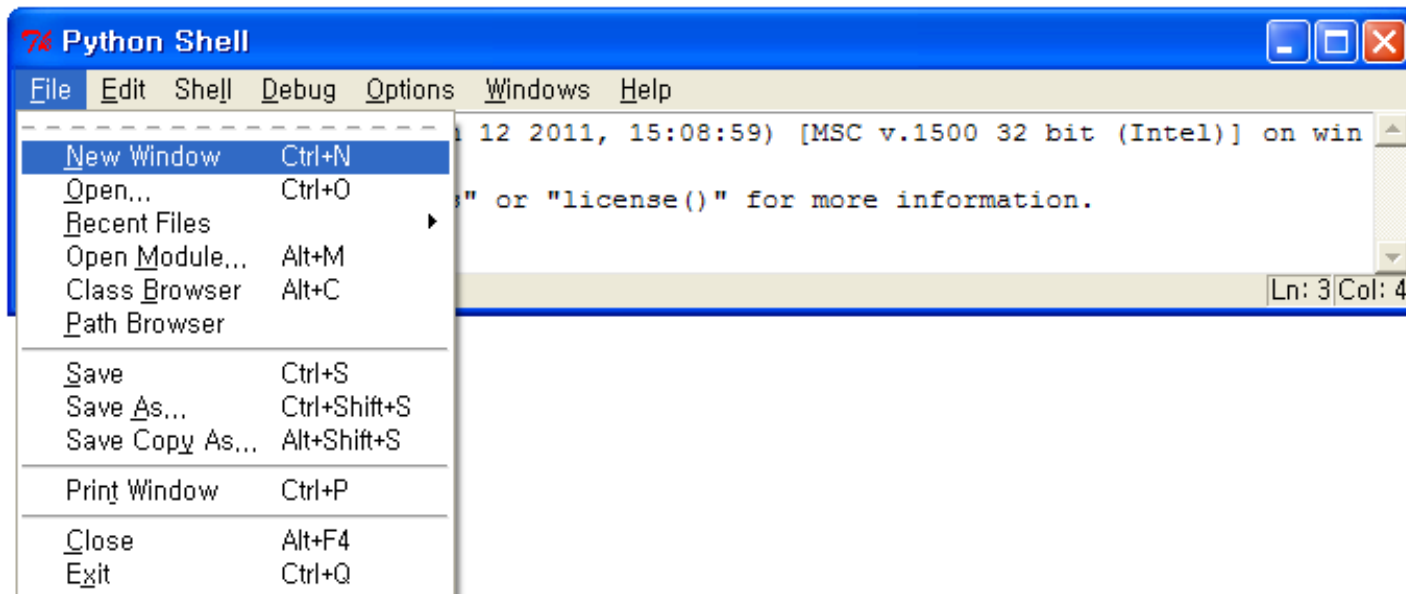


```
Python Shell
File Edit Shell Debug Options Windows Help
Python 2.7.2 (default, Jun 12 2011, 15:08:59) [MSC v.1500 32 bit (Intel)] on win
32
Type "copyright", "credits" or "license()" for more information.
>>> 2+2
4
>>>
```

[실습]

- 마찬가지로, 다음을 입력해 볼 것
 - $2+2$
 - `print(2+2)`
 - `'hello'`
 - `print('hello')`

IDLE - Non-Interactive Mode



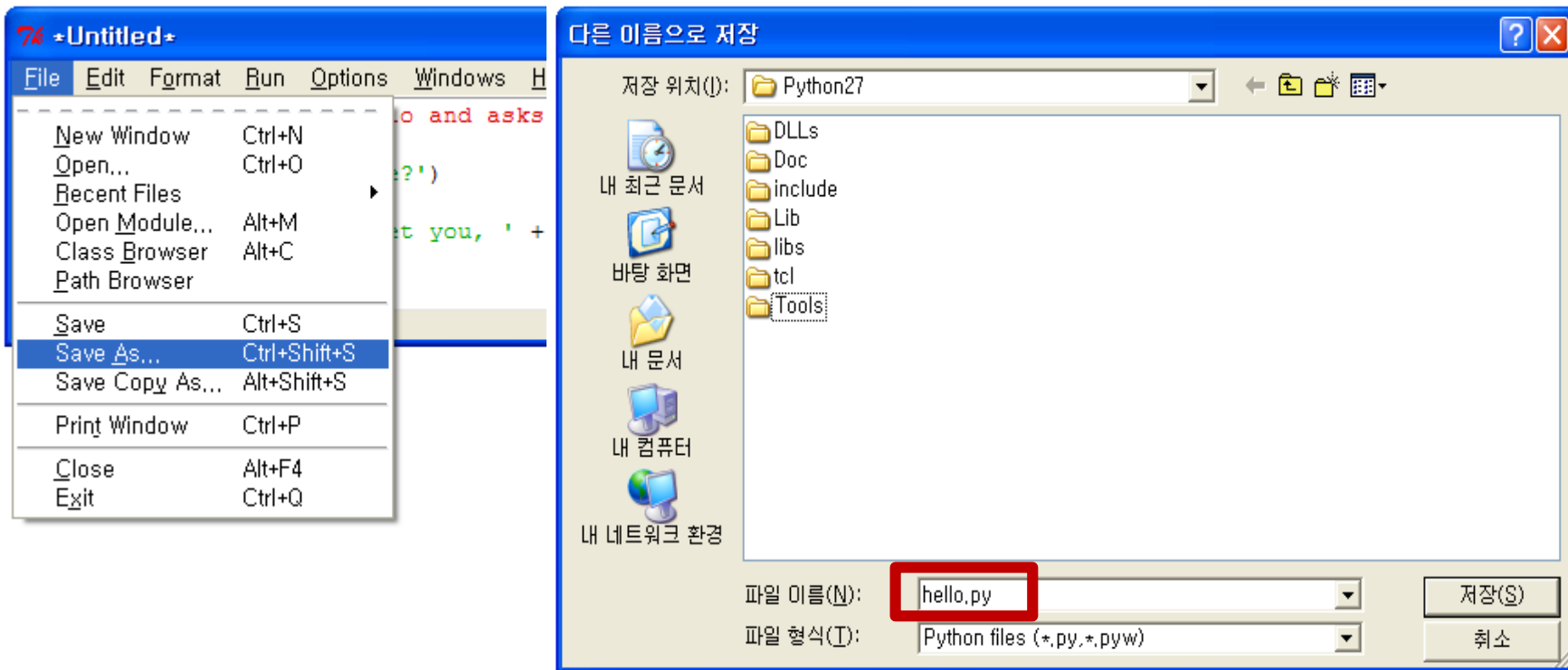
- You will see “New File” instead of “New Window” from Python 3.6.4.

[실습]

- 새로 뜬 Untitled 창에 아래를 입력:
- `print(2+2)`
- `print('hello')`

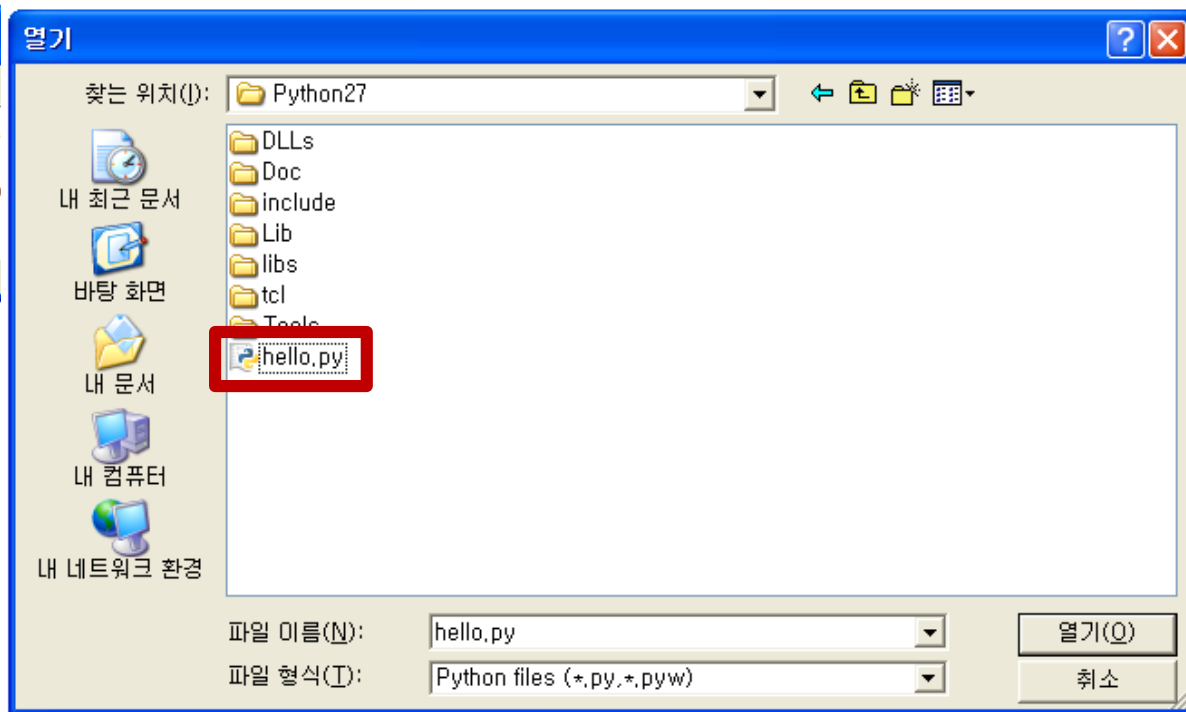
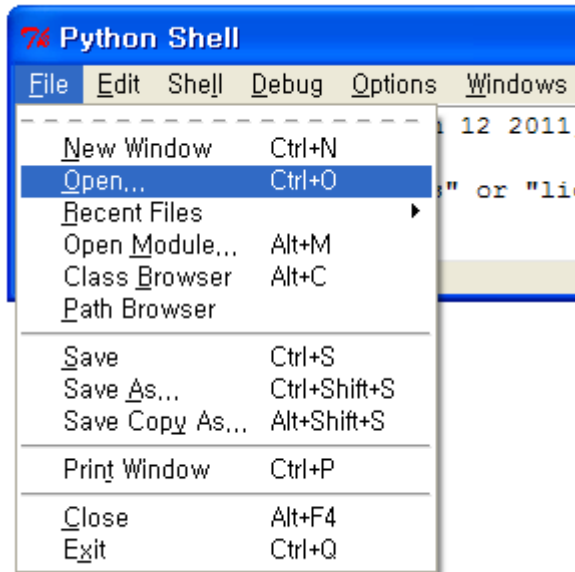
파일 저장

- Save the program.



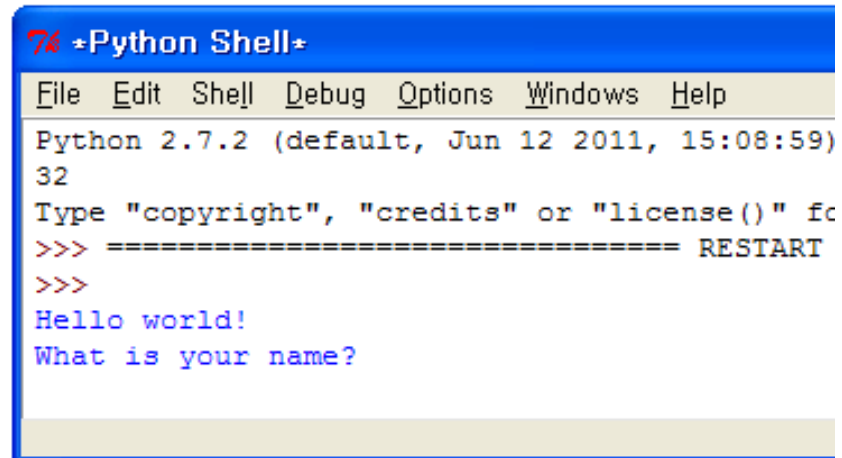
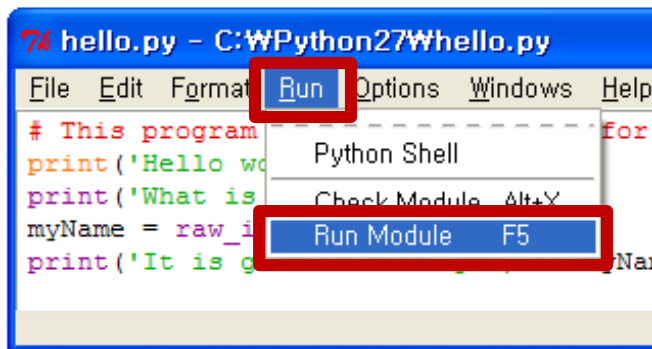
파일 열기

- Open the program you've saved



실행

- Run “Hello World!” program.
 - choose **Run > Run Module** or just press the **F5** key.



Actually, IDLE is not mandatory

- You can use instead of IDLE...
 - Running Python interpreter in cmd or terminal window directly (for interactive mode).
 - Any text editors (for non-interactive mode) - Vim, Notepad++, Sublime Text, Atom, Notepad, gedit...
- Previous slides are based on IDLE, just as an example.

Running Python Interpreter 1

- **Interactive mode**

- Windows: Start, type “cmd”,

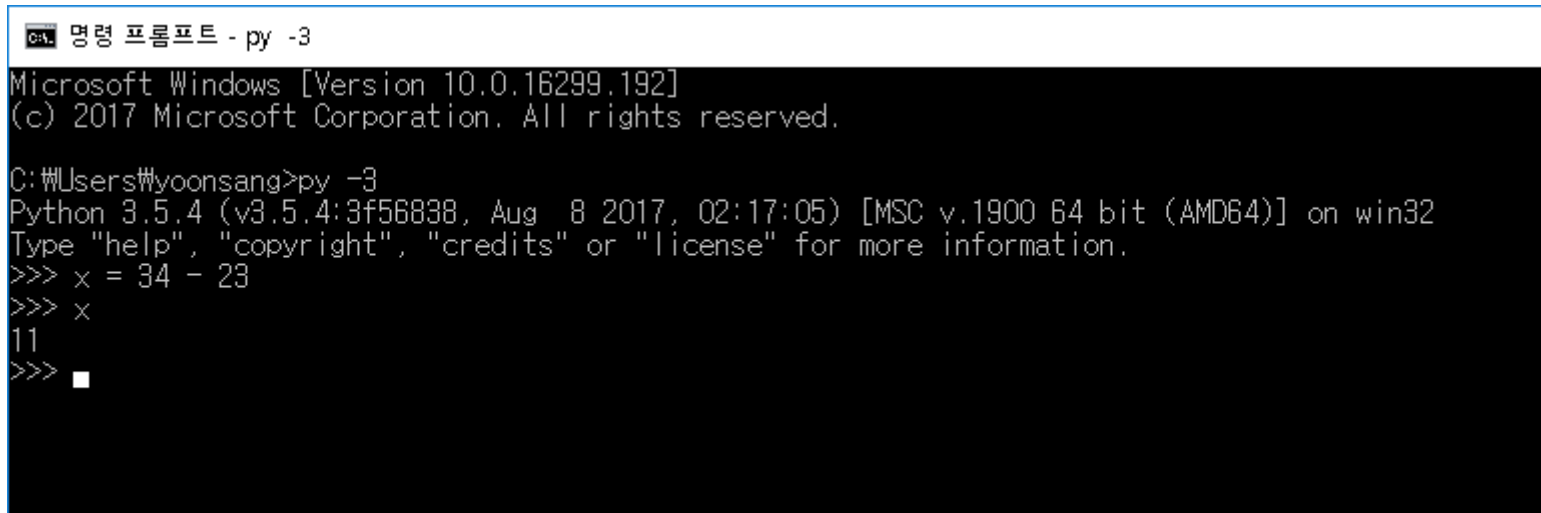
```
> py -3
```

- Ubuntu: Start, type “terminal”,

```
$ python3
```

- **Suitable for simple tests**

- To exit the interpreter, type `exit()` and press enter key.



```
명령 프롬프트 - py -3
Microsoft Windows [Version 10.0.16299.192]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\Wyoonsang>py -3
Python 3.5.4 (v3.5.4:3f56838, Aug  8 2017, 02:17:05) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> x = 34 - 23
>>> x
11
>>> ■
```

[실습]

– Windows: Start, type “cmd”,

```
> py -3
```

– Ubuntu: Start, type “terminal”,

```
$ python3
```

- Python interpreter가 실행되면, 다음을 입력해볼 것.

– 2+2

– print(2+2)

– 'hello'

– print('hello')

Running Python Interpreter 2

- **Non-interactive mode** (runs a source file)
 - Windows

```
> py -3 test.py
```
 - Ubuntu

```
$ python3 test.py
```
 - In most cases, you will use this mode.
- You can write a Python source file using your favorite text editor.
 - Vim, Notepad++, Sublime Text, Atom, IDLE ...
 - I personally use gvim (on Windows) and vim (on Linux).

[실습]

- Windows

- 메모장을 열고 `print(2+2)` 입력 & `test.py` 이름으로 저장.
- cmd창을 열고 `cd` 명령으로 파일이 저장된 디렉터리로 이동.
- `> py -3 test.py`

- Ubuntu

- `gedit`를 열고 `print(2+2)` 입력 & `test.py` 이름으로 저장.
- terminal창을 열고 `cd` 명령으로 파일이 저장된 디렉터리로 이동.
- `$ python3 test.py`

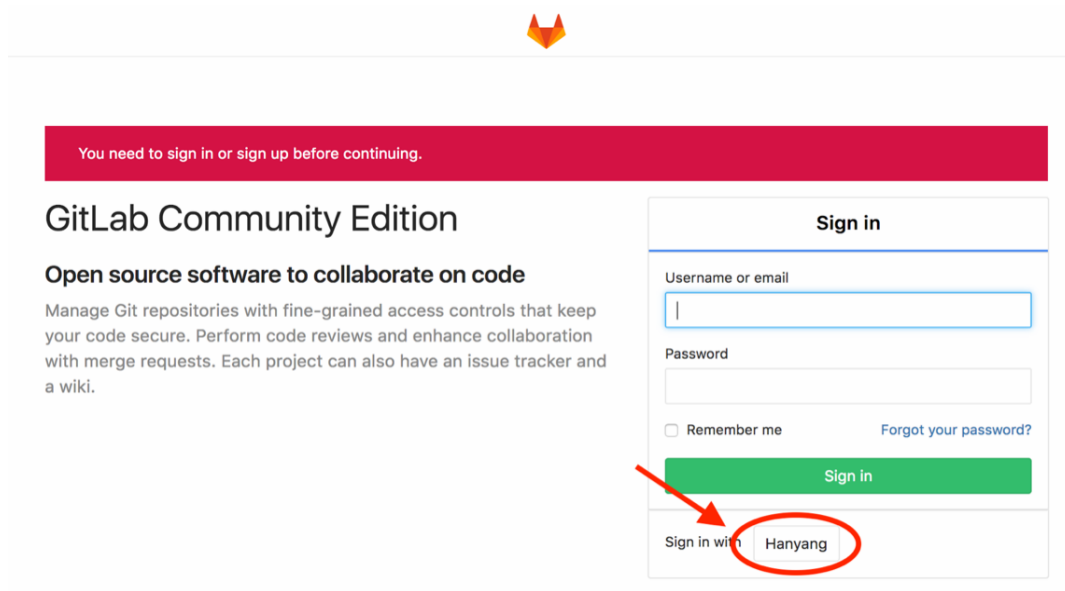
Gitlab 계정 생성

Gitlab

- 오늘 실습은 Blackboard의 과제 제출 메뉴를 통해 과제를 제출.
- 다음 주 실습부터는 <https://hconnect.hanyang.ac.kr/> 로 gitlab에 접속해서 과제를 제출.
- 하지만 hconnect 계정 생성을 미리 해둘 것.

Git

- Access to <https://hconnect.hanyang.ac.kr/>



The image shows the GitLab Community Edition login page. At the top, there is a red banner with the text "You need to sign in or sign up before continuing." Below this, the page is titled "GitLab Community Edition" with the subtitle "Open source software to collaborate on code". The main content area describes the features of GitLab, such as managing repositories, performing code reviews, and using merge requests. On the right side, there is a "Sign in" form. The form includes fields for "Username or email" and "Password". Below these fields, there are checkboxes for "Remember me" and a link for "Forgot your password?". A green "Sign in" button is located below the form. At the bottom of the form, there is a "Sign in with" section. A red arrow points to the "Hanyang" button in this section, which is also circled in red.

You need to sign in or sign up before continuing.

GitLab Community Edition

Open source software to collaborate on code

Manage Git repositories with fine-grained access controls that keep your code secure. Perform code reviews and enhance collaboration with merge requests. Each project can also have an issue tracker and a wiki.

Sign in

Username or email

Password

☐ Remember me [Forgot your password?](#)

[Sign in](#)

Sign in with [Hanyang](#)

Git

- Login hanyang account



한양대학교 | 로그인

고객님의 정보에 접근하기 위하여 인증이 필요합니다.
한양대학교 포털 한양인(HY-in)계정으로 로그인 하시기 바랍니다.

Portal Login

ID

Password

로그인

Git

- Consent for information provision

**한양대학교 | 개인정보의 제 3자 제공동의 요청**

한양대학교 OPEN API는 아래와 같은 개인정보를 온라인 소프트웨어 교육 지원 시스템 - Real 에 제공합니다.

제공 받는자

커넥트재단 (온라인 소프트웨어 교육 지원 시스템 - REAL)

제공 목적

웹상에서 학생 실습코드를 저장하고 빌드 하며 채점, 코드 리뷰를 수행하는 시스템 입니다.

실습 코드 저장은 GITLABCE를 활용할 예정이고
코드 리뷰는 REVIEW BOARD, 빌드 및 채점은 JENKINS를 사용할 예정입니다.

한양대 도메인을 통해 서비스 하고 한양대 학생 인증을 적용할 예정입니다.

**** 실제 서비스를 사용자가 사용하는 환경 입니다.**

제공 항목

모든 항목에 동의하셔야만 이용 가능합니다.

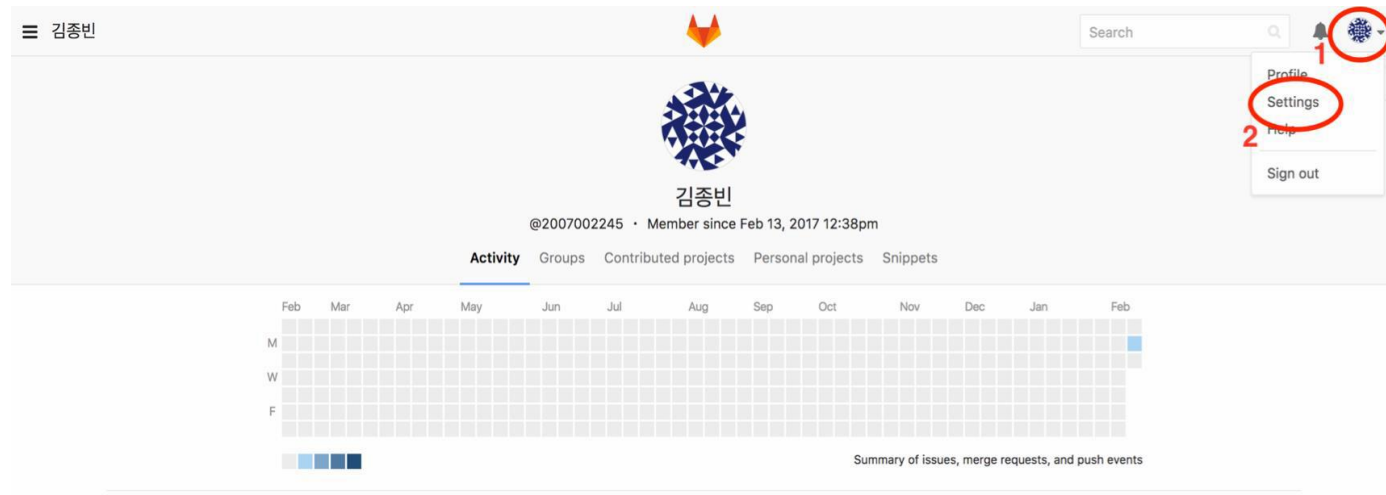
로그인사용자 정보조회

[포털에서 설정한 대표 신분 정보]
로그인한 사용자의 성명, 사용자ID, 학번(개인번호), 재학(재직) 여부, 소속대학, 소속명, 소속코드, 소속ID, 사용자구분명의 정보를 제공합
니다.

☒ 전체 동의합니다. ☐ 동의합니다.

Git

- Set up Password



- Set up Password

The screenshot shows the GitHub 'User Settings' page, specifically the 'Password' tab. The page is titled 'Password' and includes a sub-header 'Change your password or recover your current one'. Below this, there are three input fields: 'Current password', 'New password', and 'Password confirmation'. A red circle labeled '3' highlights the 'Password' tab in the top navigation bar. A red circle labeled '4' encompasses the three password input fields. A red circle labeled '5' highlights the 'Save password' button at the bottom left. A red arrow points to the 'Password' tab. A red text annotation '초기 패스워드: 한양인 패스워드' is placed next to the 'Current password' field. A link 'forgot my password' is visible next to the 'Save password' button.

≡ User Settings

Profile Account Applications Chat Access Tokens Emails **Password** Notifications SSH Keys Preferences Audit Log

Password

After a successful password update, you will be redirected to the login page where you can log in with your new password.

Change your password or recover your current one

Current password

You must provide your current password in order to change it.

New password

Password confirmation

Save password forgot my password

초기 패스워드: 한양인 패스워드

Git

- Set up Email

The screenshot shows the GitHub 'User Settings' page. The 'Profile' tab is selected and circled with a red circle and the number '1'. Below the 'Public Avatar' section, the 'Main settings' section is visible. The 'Name' field contains '김종빈'. The 'Email' field contains 'mrbin20022@gmail.com' and is circled with a red circle and the number '2'. Below the 'Email' field, there is a note: 'We also use email for avatar detection if no avatar is uploaded.' The 'Bio' field is empty. At the bottom, the 'Update profile settings' button is circled with a red circle and the number '3'. A 'Cancel' button is also visible.

User Settings

Profile Account Applications Chat Access Tokens Emails Password Notifications SSH Keys Preferences Audit Log

Public Avatar
You can upload an avatar here or change it at [gravatar.com](#)

Upload new avatar
Browse file... No file chosen
The maximum file size allowed is 200KB.

Main settings
This information will appear on your profile.

Name
김종빈
Enter your name, so people you know can recognize you.

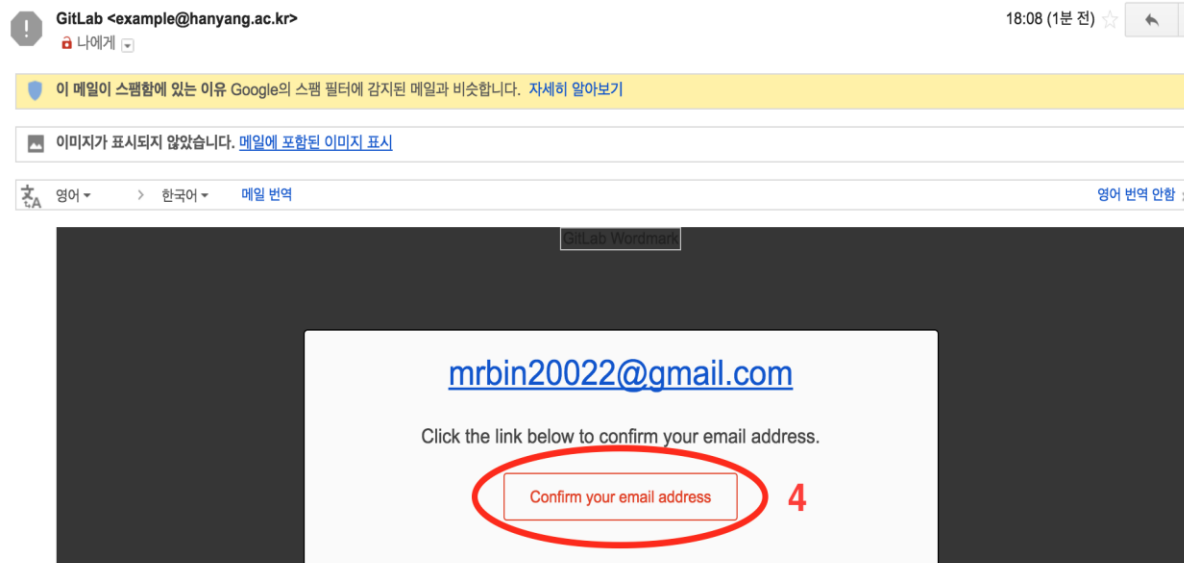
Email
mrbin20022@gmail.com
We also use email for avatar detection if no avatar is uploaded.

Bio
Tell us about yourself in fewer than 250 characters.

Update profile settings Cancel

Git

- Set up Email – Approve from changed email



Git

- After this, 로그인은 학번/email과 변경한 password로 가능
(Sign in with Hanyang을 거치지 않고)



GitLab Community Edition

Open source software to collaborate on code

Manage Git repositories with fine-grained access controls that keep your code secure. Perform code reviews and enhance collaboration with merge requests. Each project can also have an issue tracker and a wiki.

Sign in

Username or email

2007002245

Password

.....

☐ Remember me

[Forgot your password?](#)

Sign in

Sign in with

Hanyang

과제 1-1

- 과제 및 제출 양식 확인: 블랙보드 확인