

# Setting up the Environment [SWE2021]

---

**JinYeong Bak**

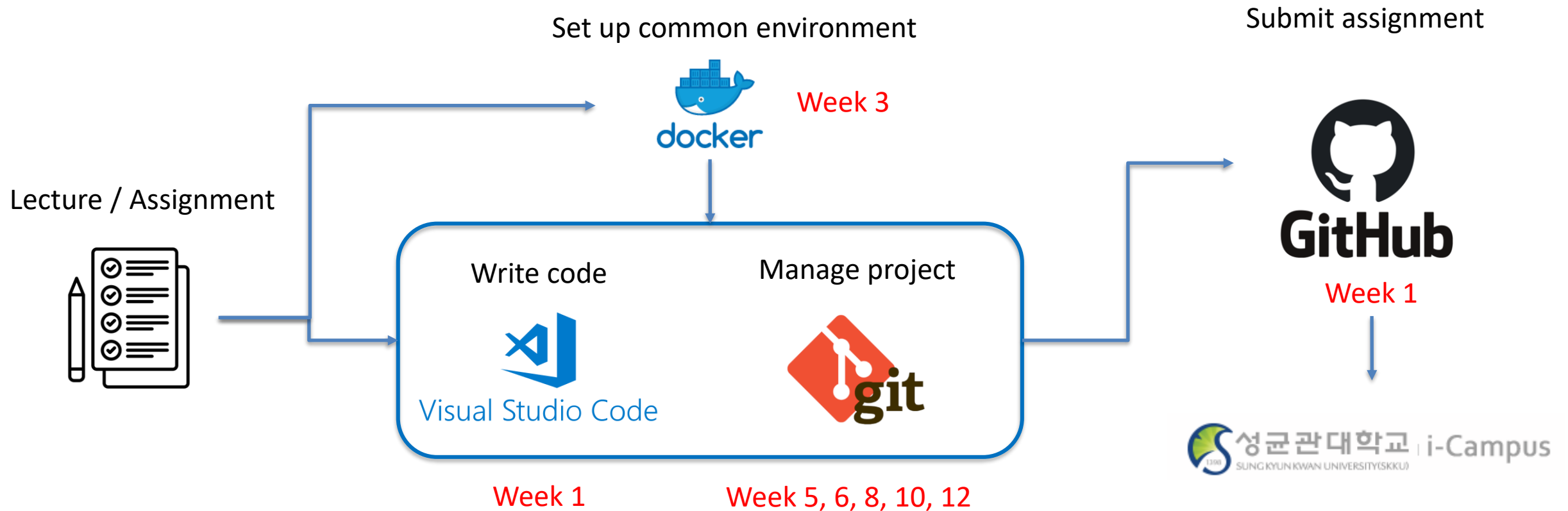
jy.bak@skku.edu

Human Language Intelligence Lab, SKKU

Slide credit: YeongJun Hwang / hmtyj2@g.skku.edu

# Workflow

- Workflow of this class



# VSCode

---

# Code Editor

---

- Text editor program designed for editing source code
- Designed to simplify and speed up typing of source code
  - Syntax highlighting
  - Indentation
  - Auto complete
  - Brace matching
- Well known open-source code editors
  - Visual Studio Code
  - Atom
  - Sublime Text

# Code Editor

- Syntax highlighting / auto complete

```
class pretrain_model(nn.Module):
    def __init__(self, args):
        super().__init__()
        self.mlp = nn.Sequential(
            nn.Linear(18, 64),
            nn.ELU(),
            nn.Linear(64, 128),
            nn.ELU(),
            nn.Linear(128, 64),
            nn.ELU(),
            nn.Linear(64, 20),
        )

    def forward(self, input_batch):
        logits = self.mlp(input_batch)
        revised_logits = lo
        return {'logits':logits}
```



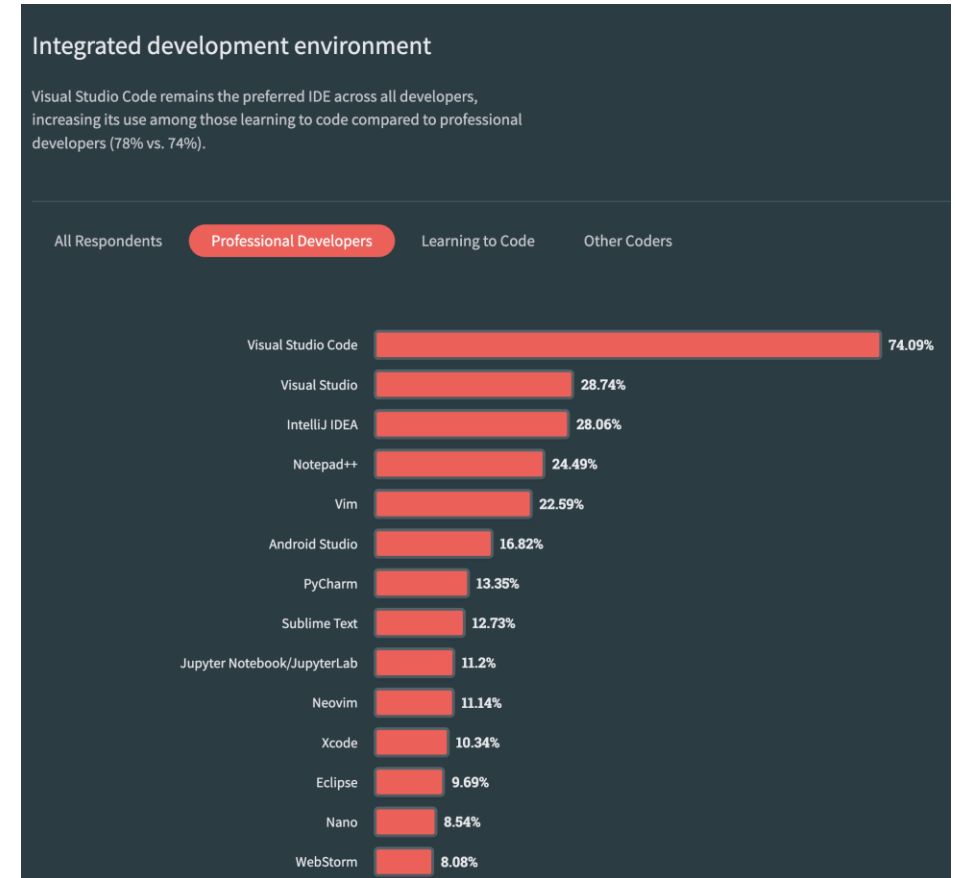
```
class pretrain_model(nn.Module):
    def __init__(self, args):
        super().__init__()
        self.mlp = nn.Sequential(
            nn.Linear(18, 64),
            nn.ELU(),
            nn.Linear(64, 128),
            nn.ELU(),
            nn.Linear(128, 64),
            nn.ELU(),
            nn.Linear(64, 20),
        )

    def forward(self, input_batch):
        logits = self.mlp(input_batch)
        revised_logits = lo
        return {'logits':lo

logits
locals
LookupError
__loader__
ProcessLookupError
UnboundLocalError
revised_logits
```

# Visual Studio Code (VSCode)

- Why VSCode?
  - Open source
  - Cross platform (Windows, Linux, MacOS)
  - In-built debugger
  - Extensions
  - ...and most popular



Stack Overflow's 2023 Developer Survey

# Installation

- Windows & MacOS
  - Visit <https://code.visualstudio.com/>

The image is a composite showing the Visual Studio Code website on the left and the Visual Studio Code application interface on the right.

**Left Panel (Website):** The website header says "Code editing. Redefined." and "Free. Built on open source. Runs everywhere." Below this is a "Download for Windows" button. A table shows download links for various operating systems. The "macOS" and "Windows x64" rows are highlighted with a red box.

		Stable	Insiders
macOS	Universal	↓	↓
Windows x64	User Installer	↓	↓
Linux x64	.deb .rpm	↓ ↓	↓ ↓

Other downloads or open on web

**Right Panel (Visual Studio Code Interface):** The interface shows the "EXTENSIONS: MARKETPLACE" sidebar with a list of installed and available extensions. The main editor area displays a JavaScript file named "serviceWorker.js" with code for registering a service worker. The terminal at the bottom shows the command "1: node" and the message "You can now view create-react-app in the browser." with local and network URLs.

# Installation

---

- Linux (command)

- Update package

`sudo apt update`

`sudo apt install software-properties-common apt-transport-https wget`

- Install MS GPG key and repository

`curl -sSL https://packages.microsoft.com/keys/microsoft.asc | sudo apt-key add -`

`sudo apt-add-repository https://packages.microsoft.com/ubuntu/20.04/prod`

`sudo apt update`

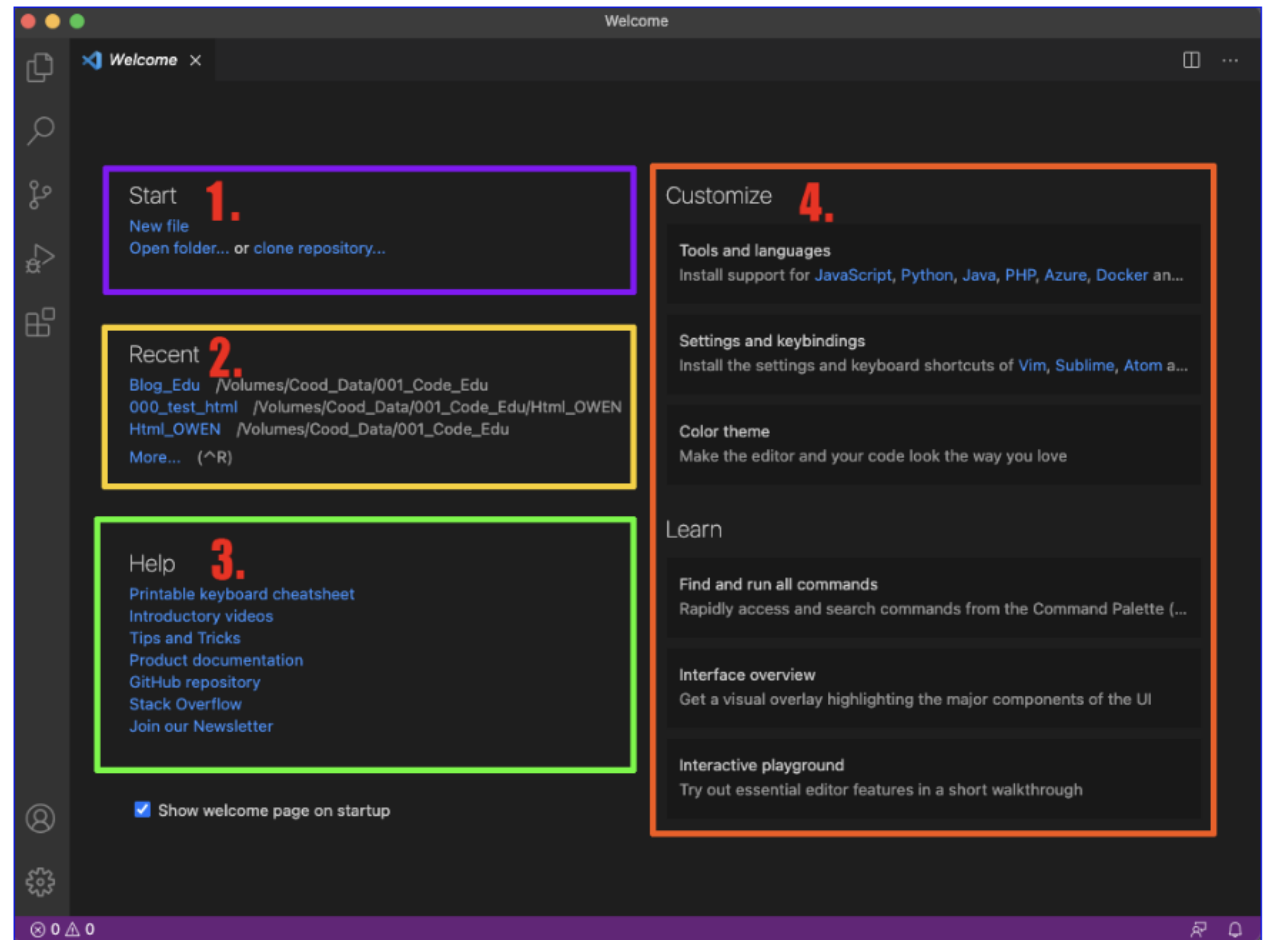
- Install via apt

`sudo apt install code`



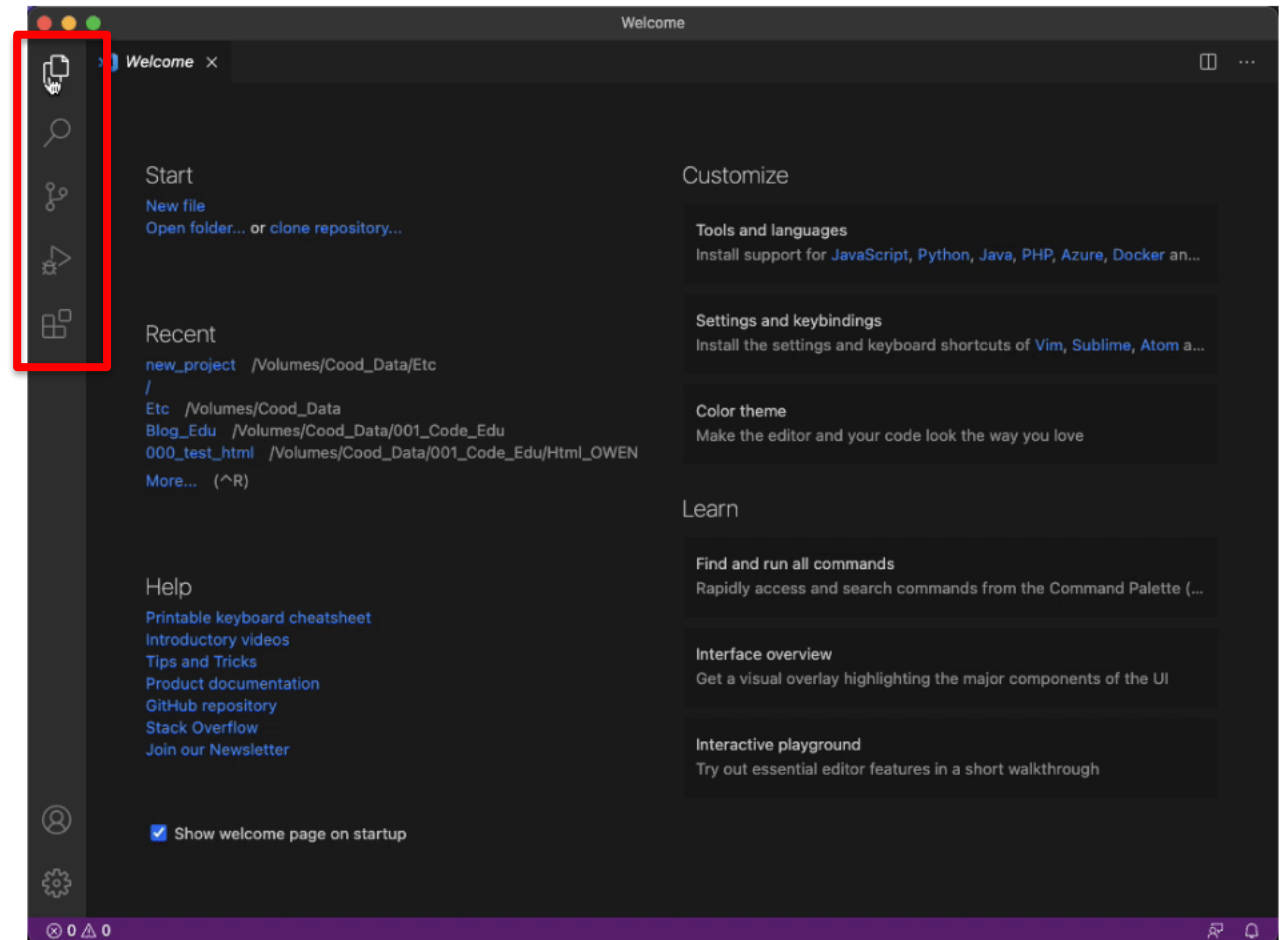
# Interface

- Create file or folder
- List of recent projects
- Documentation of VSCode
- Personal setting



# Interface

- Activity bar
  - Explorer
  - Search
  - Source control
  - Debug
  - Extensions



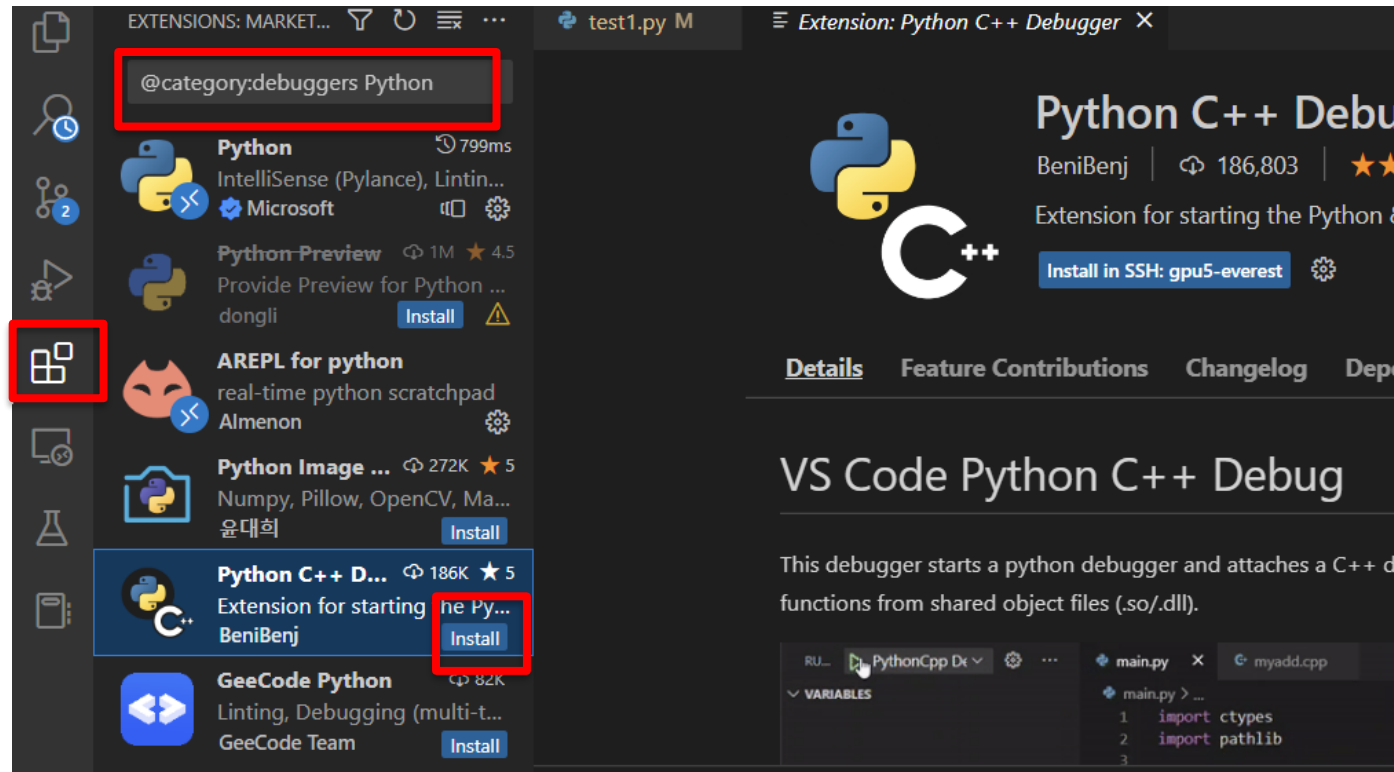
# Extention

---

- One of the reasons why many developers use VSCode
- Add languages, debuggers, and tools for your workflow
- There are over 20,000 extensions and still tens of extensions are registered for a day
- Improve your productivity

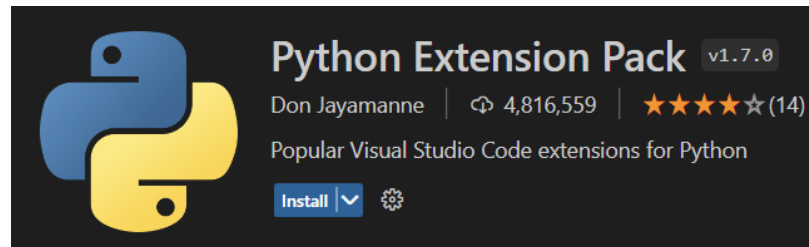
# Extention

- Installation
  - Just search & install



# Extension - suggestions

- Python Extension Pack
  - Include IntelliSense, Debugging, Environments

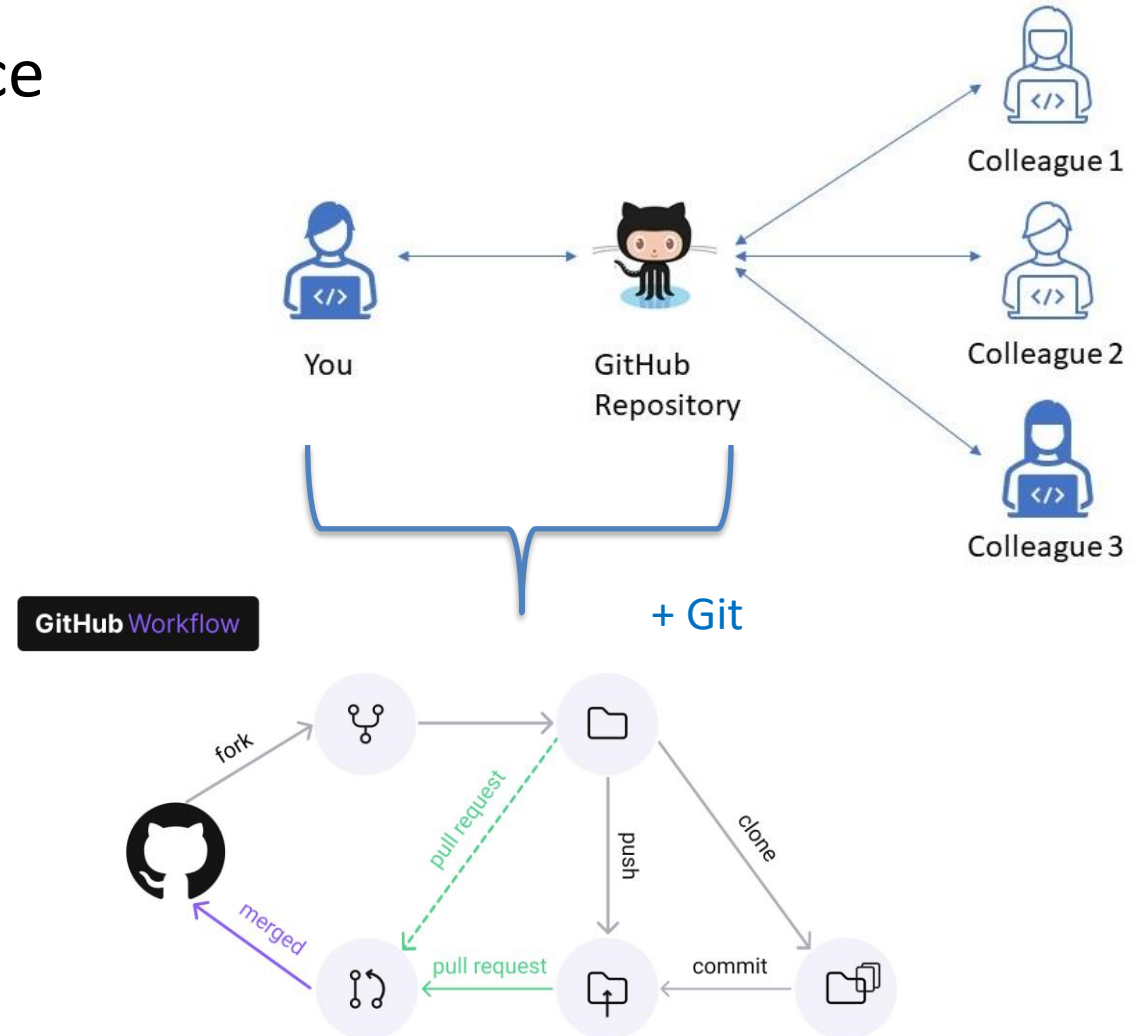
A screenshot of the Visual Studio Code editor showing a file named "hello.py". The code contains two lines: "1 greeting = 'Hello World!'" and "2 print()". The cursor is at the end of the second line. A tooltip is displayed for the "print()" function, showing its signature: "(\*values: object, sep: str | None = ..., end: str | None = ..., file: SupportsWrite[str] | None = ..., flush: bool = ...) -> None". Below the signature, it says "Prints the values to a stream, or to sys.stdout by default. Optional keyword arguments:" followed by details for "file" and "sep".A screenshot of the Visual Studio Code editor showing the same "hello.py" file. The code is "1 greeting = 'Hello World!'" and "2 print(gr)". The cursor is at the end of the second line. A dropdown menu is open, showing the scope of the variable "greeting". The menu lists "greeting" (selected), "global", "globals", "get\_args", "get\_args", "get\_cache\_token", "get\_origin", and "get\_origin".

# GitHub

---

# GitHub

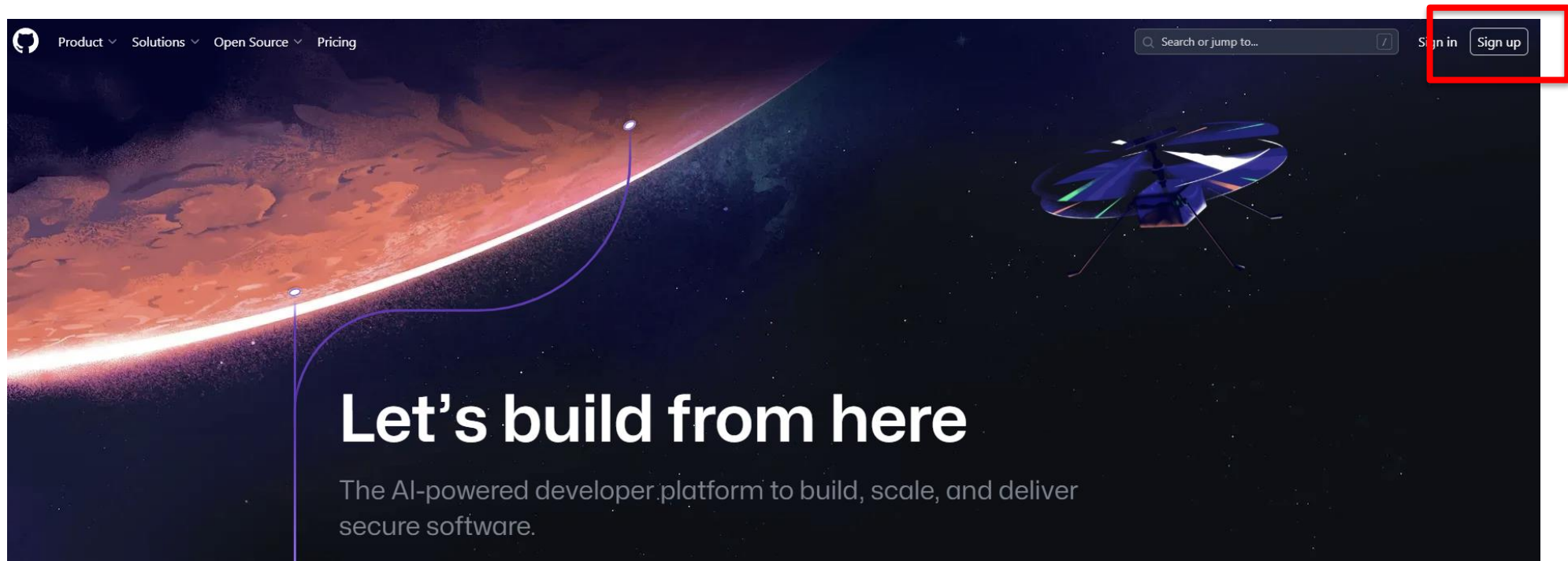
- Website and cloud-based service that helps developers manage their code
- Developers can store and share their code with others



# GitHub – sign up

---

- <https://github.com/>





# GitHub – repository

- Contains all of your project's files and revision history
- Each project is managed by its own repository.

protein\_ligand Private Unwatch 1

main 1 branch 0 tags Go to file Add file <> Code

root initial commit 79968ae on Jul 11 1 commit		
dataloader	initial commit	last month
metric	initial commit	last month
model	initial commit	last month
module	initial commit	last month
preprocessing	initial commit	last month
source	initial commit	last month
trainer	initial commit	last month
.gitignore	initial commit	last month

Project 'protein\_ligand'

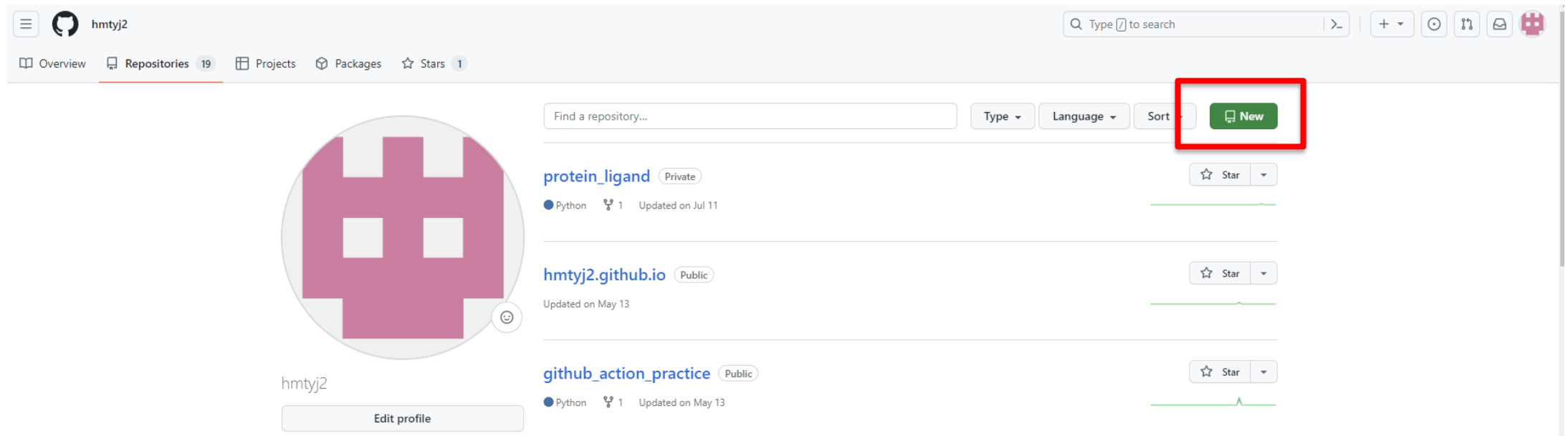
FMListR Private Unwatch 1

main 1 branch 0 tags Go to file Add file <> Code

root 23/05/12 47b24c4 on May 12 1 commit		
data	23/05/12	3 months ago
dataloader	23/05/12	3 months ago
loss	23/05/12	3 months ago
metric	23/05/12	3 months ago
model	23/05/12	3 months ago
module	23/05/12	3 months ago
run	23/05/12	3 months ago
script	23/05/12	3 months ago
script2	23/05/12	3 months ago
trainer	23/05/12	3 months ago
.gitignore	23/05/12	3 months ago

Project 'FMListR'

# GitHub – create repository



# GitHub – create repository

## Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?  
[Import a repository.](#)

Required fields are marked with an asterisk (\*).

### Repository template

No template ▾

Start your repository with a template repository's contents.

### Owner \*

hmtyj2 ▾

### Repository name \*

SWE\_2021\_41\_2023\_2\_we

✓ SWE\_2021\_41\_2023\_2\_week\_1 is available.

Great repository names are short and memorable. Need inspiration? How about fuzzy-fiesta ?

### Description (optional)

☒ Public

Anyone on the internet can see this repository. You choose who can commit.

☐ Private

You choose who can see and commit to this repository.

### Initialize this repository with:

☐ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

### Add .gitignore

.gitignore template:None ▾

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

### Choose a license

License:None ▾

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

① You are creating a public repository in your personal account.

- Name of your repository
  - For this class, we use 'SWE\_2021\_41\_2024\_1\_week\_N' format
    - Class code
    - Semester
    - Week
- Repository access settings
  - Leave it as 'public' otherwise, TA cannot access to your repository and grade your assignment

# GitHub – create repository

The screenshot shows the GitHub repository page for 'SWE\_2021\_41\_2023\_2\_week\_1'. At the top, there are buttons for 'Pin', 'Unwatch' (1), 'Fork' (0), and 'Star' (0). Below these, there are two main sections. The left section, titled 'Start coding with Codespaces', includes a description: 'Add a README file and start coding in a secure, configurable, and dedicated development environment.' A red box highlights the 'Create a codespace' button. The right section, titled 'Add collaborators to this repository', includes a description: 'Search for people using their GitHub username or email address.' and an 'Invite collaborators' button. Below these sections is a 'Quick setup' section with a blue header. It contains a 'Set up in Desktop' button, an 'or' separator, and buttons for 'HTTPS' and 'SSH'. The 'SSH' button is highlighted. Below these buttons is a text input field containing the repository URL: 'https://github.com/hmtyj2/SWE\_2021\_41\_2023\_2\_week\_1.git'. Below the input field is a link: 'Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.' Below the 'Quick setup' section is a section titled '...or create a new repository on the command line'. It contains a code block with the following commands: 

```
echo "# SWE_2021_41_2023_2_week_1" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/hmtyj2/SWE_2021_41_2023_2_week_1.git
git push -u origin main
```

 Below this code block is a copy icon. Below the '...or create a new repository on the command line' section is a section titled '...or push an existing repository from the command line'. It contains a code block with the following commands: 

```
git remote add origin https://github.com/hmtyj2/SWE_2021_41_2023_2_week_1.git
git branch -M main
git push -u origin main
```

 Below this code block is a copy icon.

SWE\_2021\_41\_2023\_2\_week\_1 Public

Pin Unwatch 1 Fork 0 Star 0

**Start coding with Codespaces**  
Add a README file and start coding in a secure, configurable, and dedicated development environment.  
**Create a codespace**

**Add collaborators to this repository**  
Search for people using their GitHub username or email address.  
Invite collaborators

**Quick setup — if you've done this kind of thing before**

Set up in Desktop or HTTPS SSH `https://github.com/hmtyj2/SWE_2021_41_2023_2_week_1.git`

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

**...or create a new repository on the command line**

```
echo "# SWE_2021_41_2023_2_week_1" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/hmtyj2/SWE_2021_41_2023_2_week_1.git
git push -u origin main
```

**...or push an existing repository from the command line**

```
git remote add origin https://github.com/hmtyj2/SWE_2021_41_2023_2_week_1.git
git branch -M main
git push -u origin main
```


- Create a codespace

After git class

# GitHub – create repository

## Create codespace

Get started with development in the cloud from an existing repository or a template. [Find out more about codespaces.](#)

 hmtyj2/SWE\_2021\_41\_2023\_2\_week\_1

### Start coding

Add a README file and start coding in a secure, configurable, and dedicated development environment.

Create new codespace



# GitHub – create repository

The screenshot shows a newly created GitHub repository. At the top, the repository name 'SWE\_2021\_41\_2023\_2\_week\_1' is displayed with a 'Public' badge. To the right are buttons for 'Pin', 'Unwatch' (1), 'Fork' (0), and 'Star' (0). Below this, a navigation bar shows 'main' as the selected branch, with '1 branch' and '0 tags' indicated. Action buttons include 'Go to file', 'Add file', and a green 'Code' button. The main content area shows the 'Initial commit' by user 'hmtyj2' with commit hash '46f605c' made '2 minutes ago'. A file named 'README.md' is listed as the 'Initial commit' from '2 minutes ago'. The content of the README.md file is visible, showing the repository name 'SWE\_2021\_41\_2023\_2\_week\_1'. On the right sidebar, the 'About' section states 'No description, website, or topics provided.' and lists 'Readme', 'Activity', '0 stars', '1 watching', and '0 forks'. The 'Releases' section shows 'No releases published' with a link to 'Create a new release'. The 'Packages' section shows 'No packages published' with a link to 'Publish your first package'.

SWE\_2021\_41\_2023\_2\_week\_1 Public

Pin Unwatch 1 Fork 0 Star 0

main 1 branch 0 tags Go to file Add file Code

hmtyj2 Initial commit 46f605c 2 minutes ago 1 commit

README.md Initial commit 2 minutes ago

README.md

SWE\_2021\_41\_2023\_2\_week\_1

About

No description, website, or topics provided.

Readme Activity 0 stars 1 watching 0 forks

Releases

No releases published  
[Create a new release](#)

Packages

No packages published  
[Publish your first package](#)

# Reference

---

- VSCode
  - [https://en.wikipedia.org/wiki/Source-code\\_editor](https://en.wikipedia.org/wiki/Source-code_editor)
  - <https://code.visualstudio.com/docs/getstarted/introvideos>
  - <https://www.youtube.com/watch?v=K8qVH8V0VvY>
  - <https://www.youtube.com/watch?v=VqCgcpAypFQ>
- GitHub
  - <https://github.com/KennethanCeyer/tutorial-git>