Turing GPU and Environment Tutorial
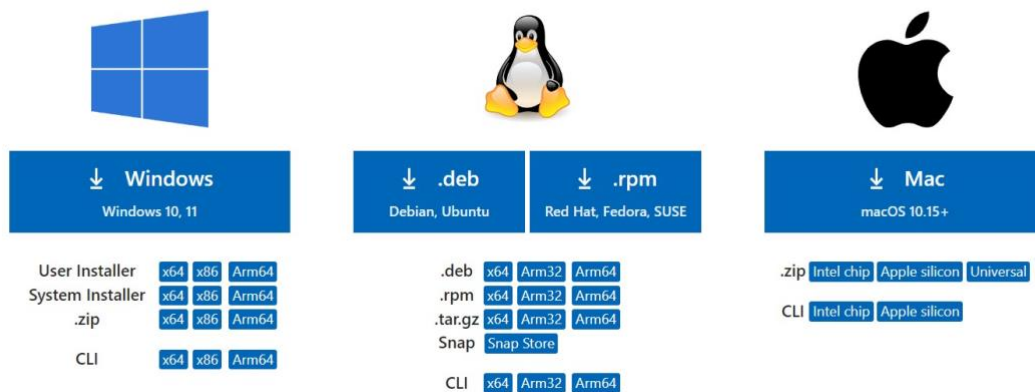
1. Vscode Installation:
   - Download and setup Vscode on your laptop using this link:
     https://code.visualstudio.com/download.
   - Choose the version appropriate for your system (Windows or Mac).

2. Connect to the WPI Network
   - Connect directly if you're on campus.
   - Use the VPN following (https://hub.wpi.edu/article/444/globalprotect-vpnclient-configuration).
3. Open Vscode and try to connect to the Turing:
   Vscode will automatically install the extensions of SSH for you.

try to connect with Turing.

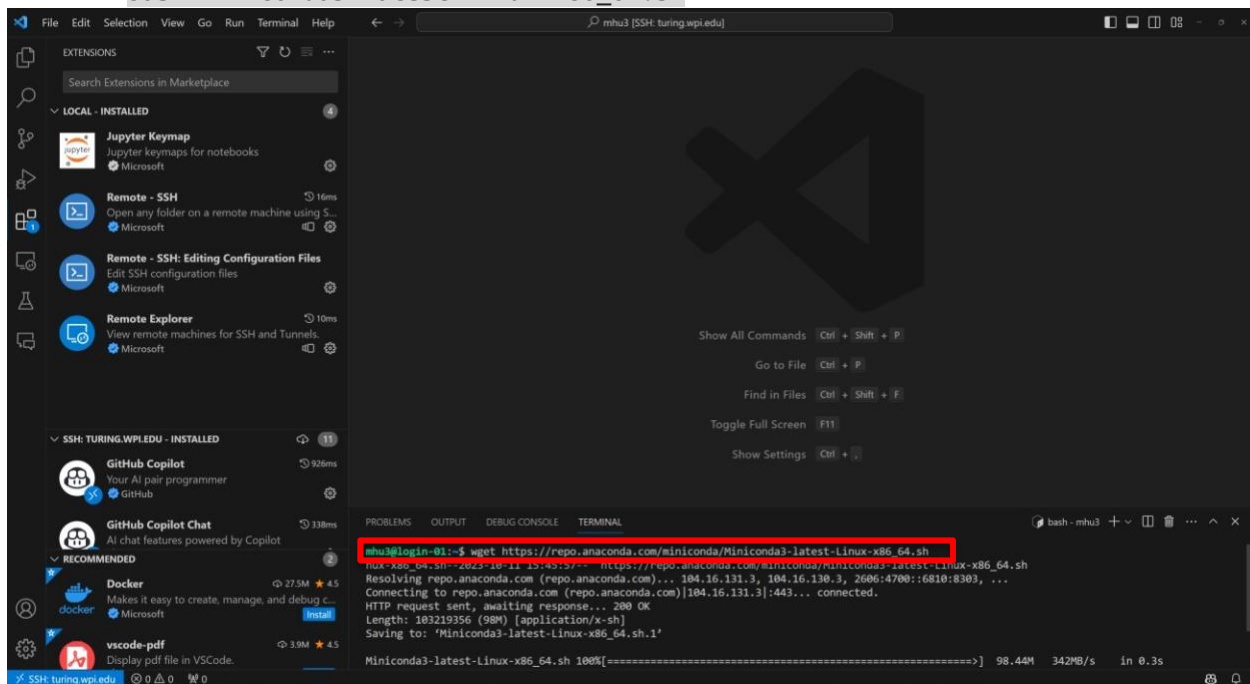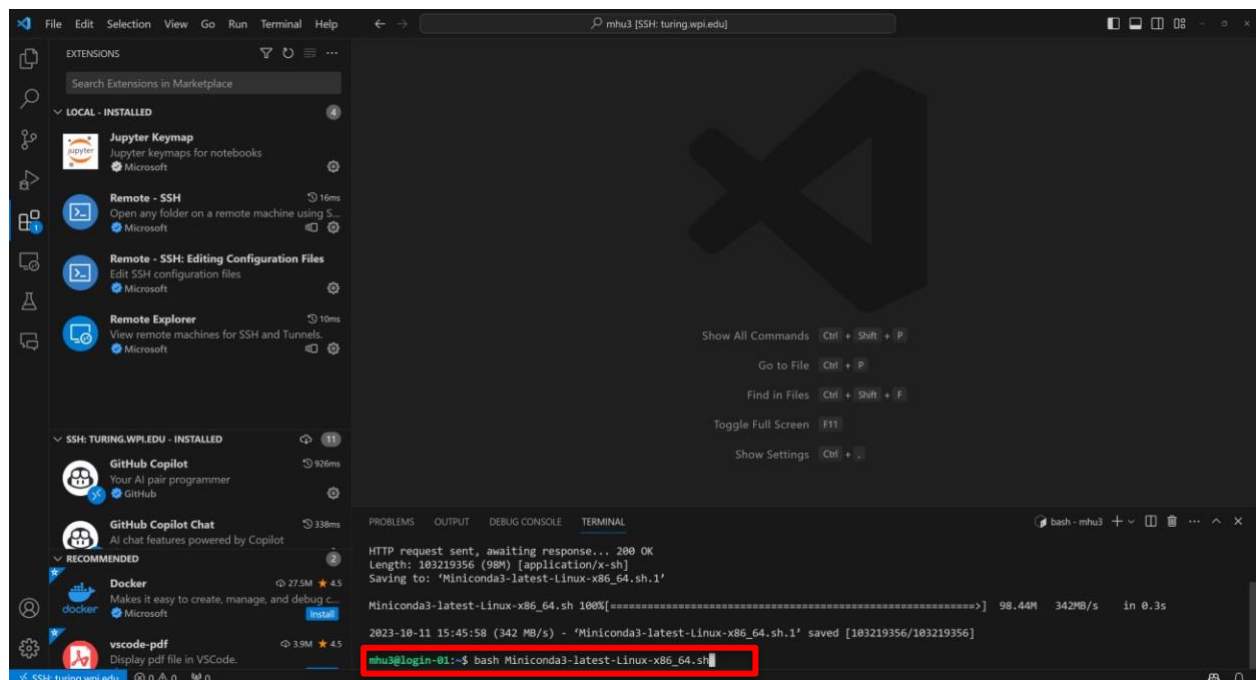Tap your Turing account and the password.
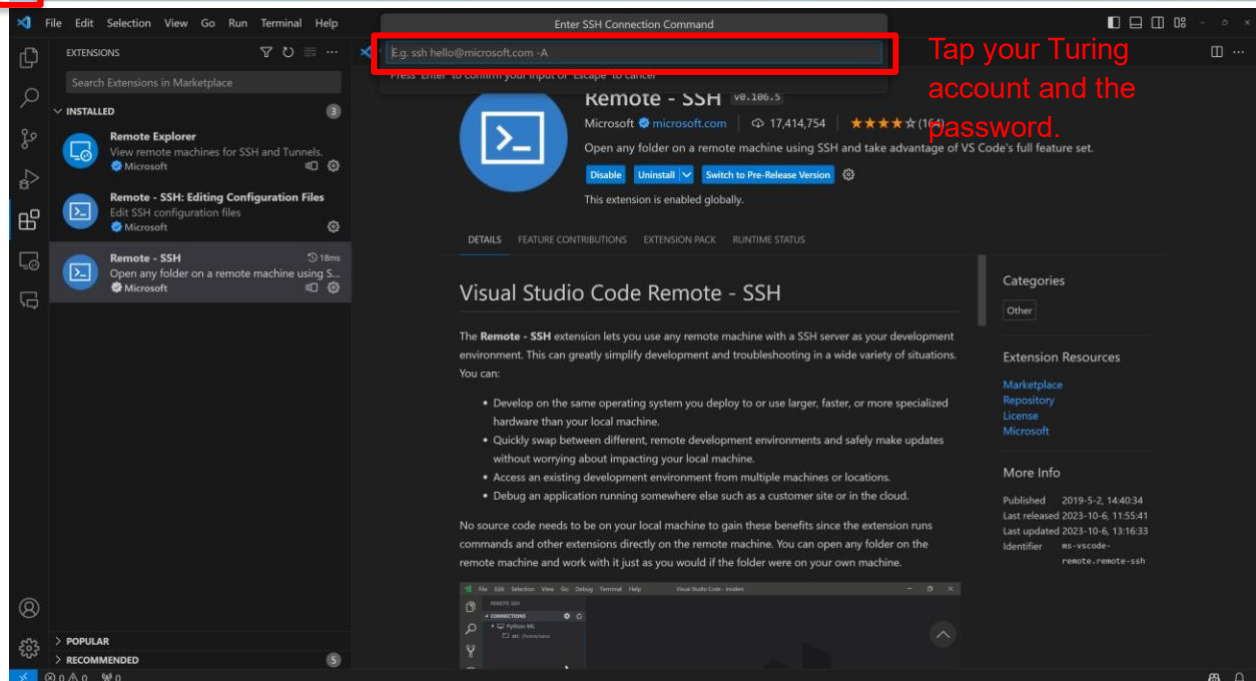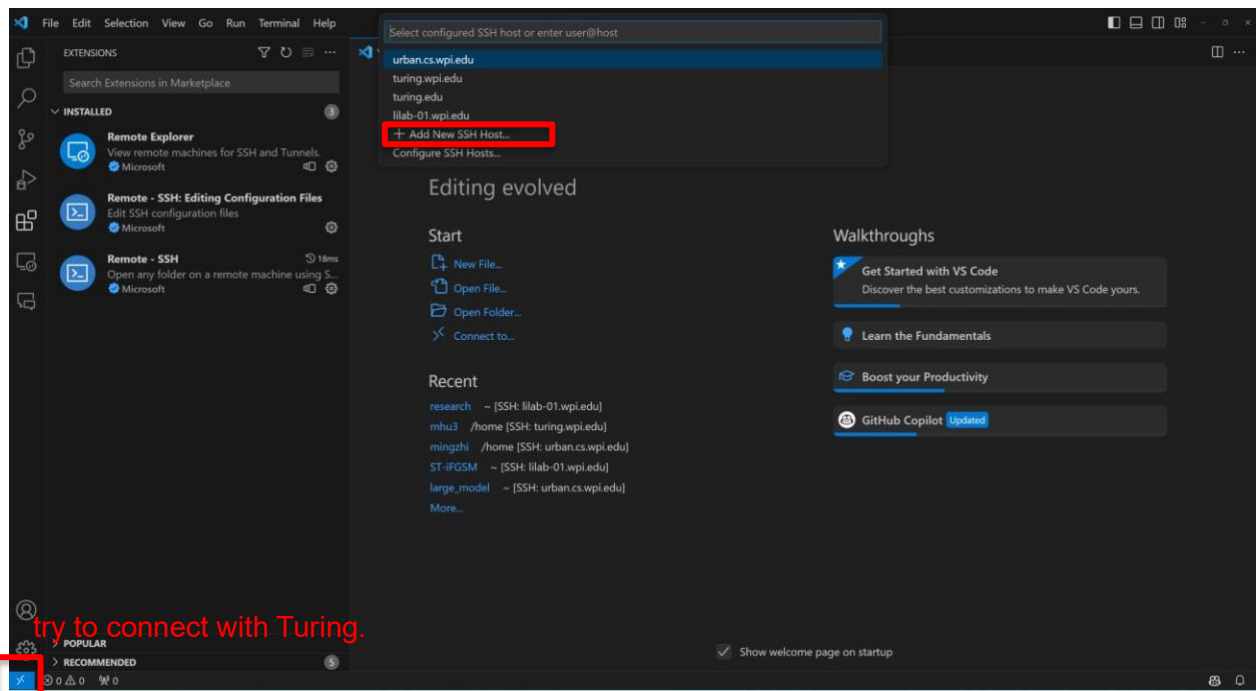
Now you are connected to Turing.
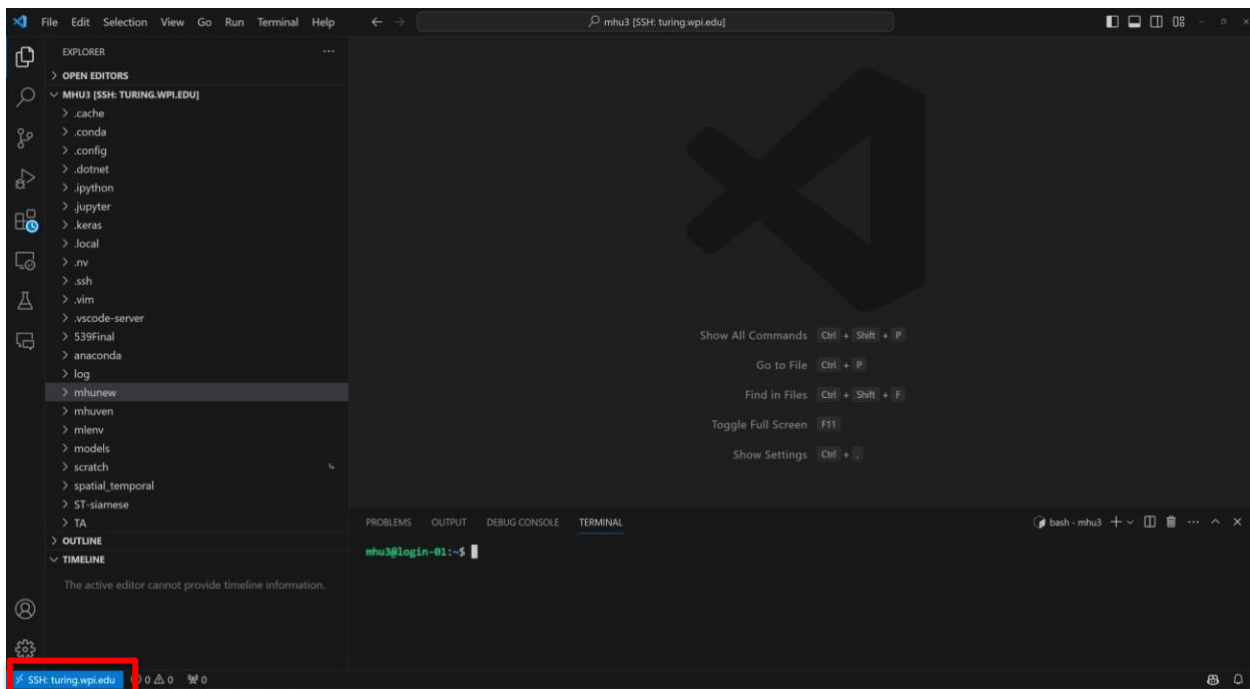
4. Download conda to the server and install it.

- `wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh`
- `bash Miniconda3-latest-Linux-x86_64.sh`

After the installation is done, restart your bash by typing bash if needed. conda will create an environment named "base" for you.

5. Create virtual environment: `conda create -n myenv python==3.11.5.`
6. After creating the virtual environment, activate it: `conda activate myenv` please install the required packages in the environment.
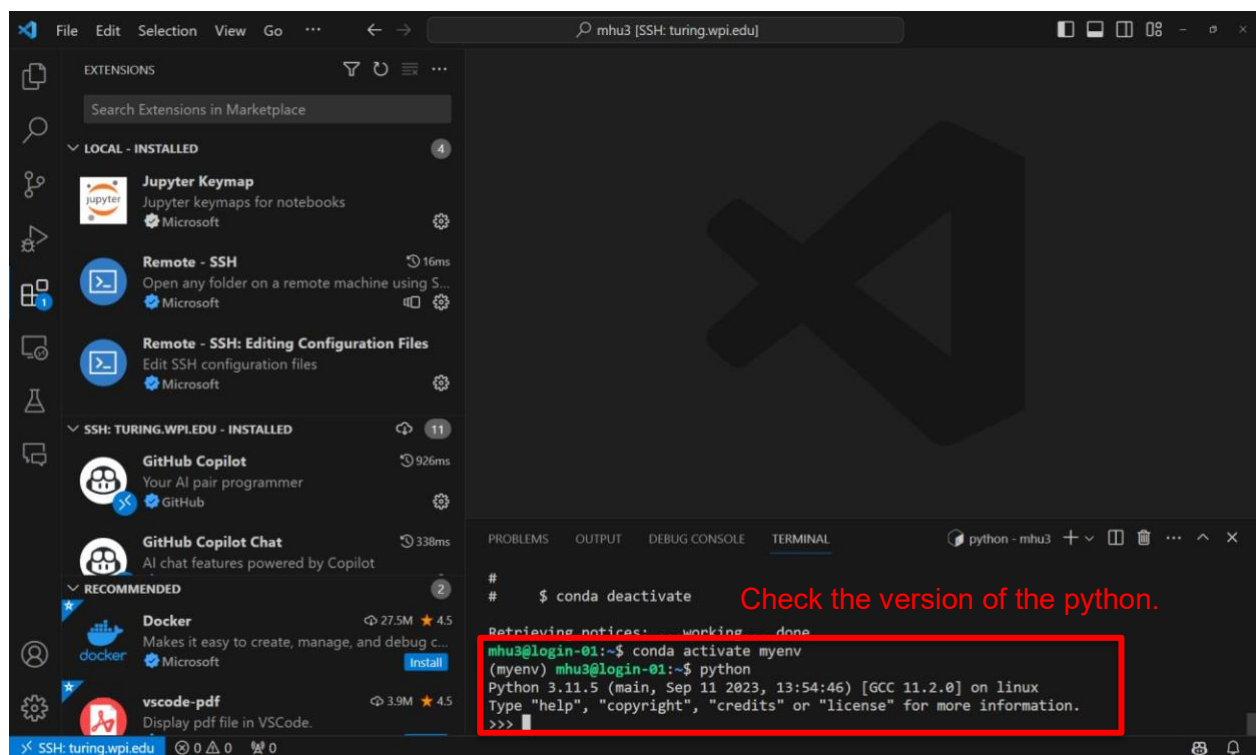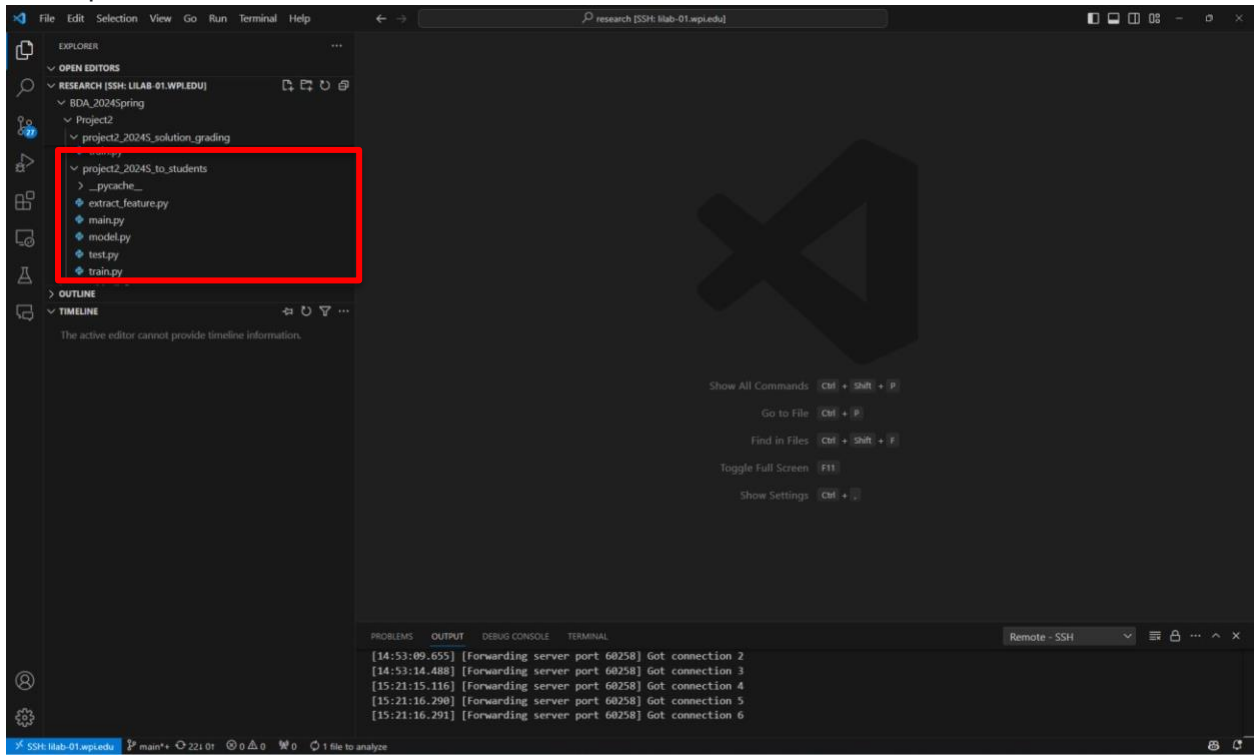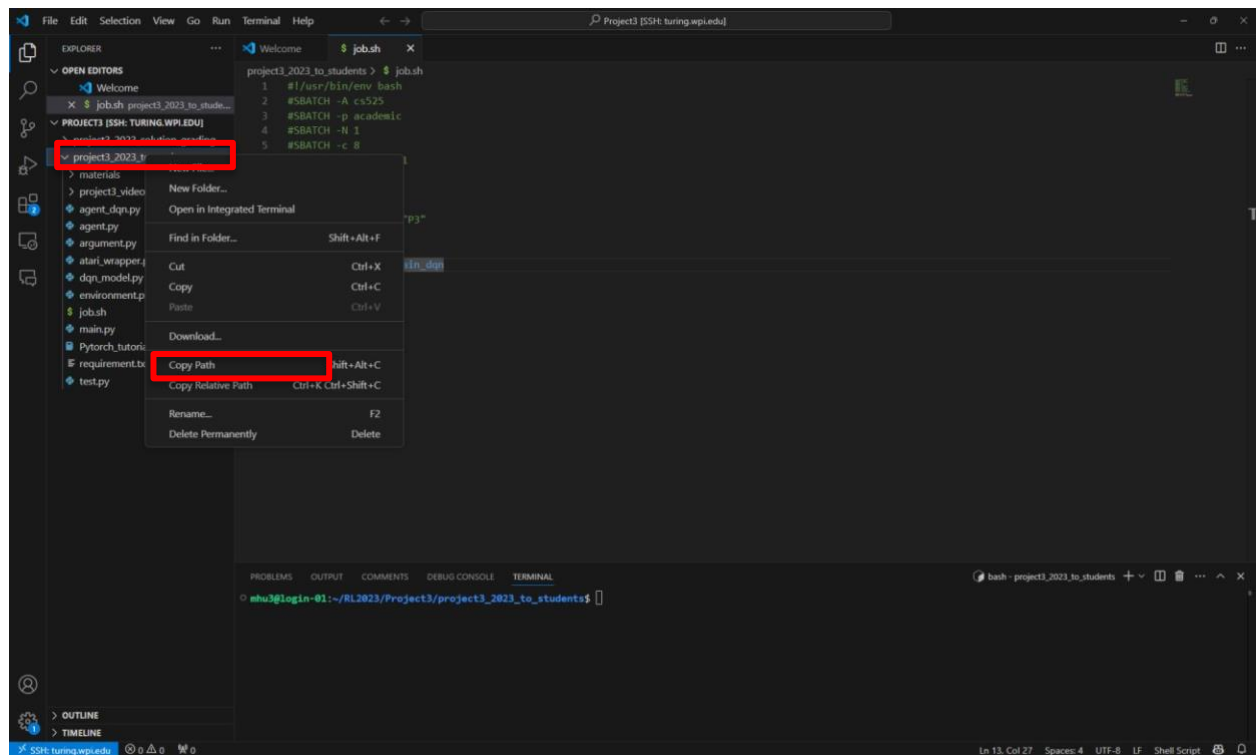
7. Project Directory Setup. Create a folder for the project.

Create a folder.

Drag the folder you downloaded from GitHub in local to server.
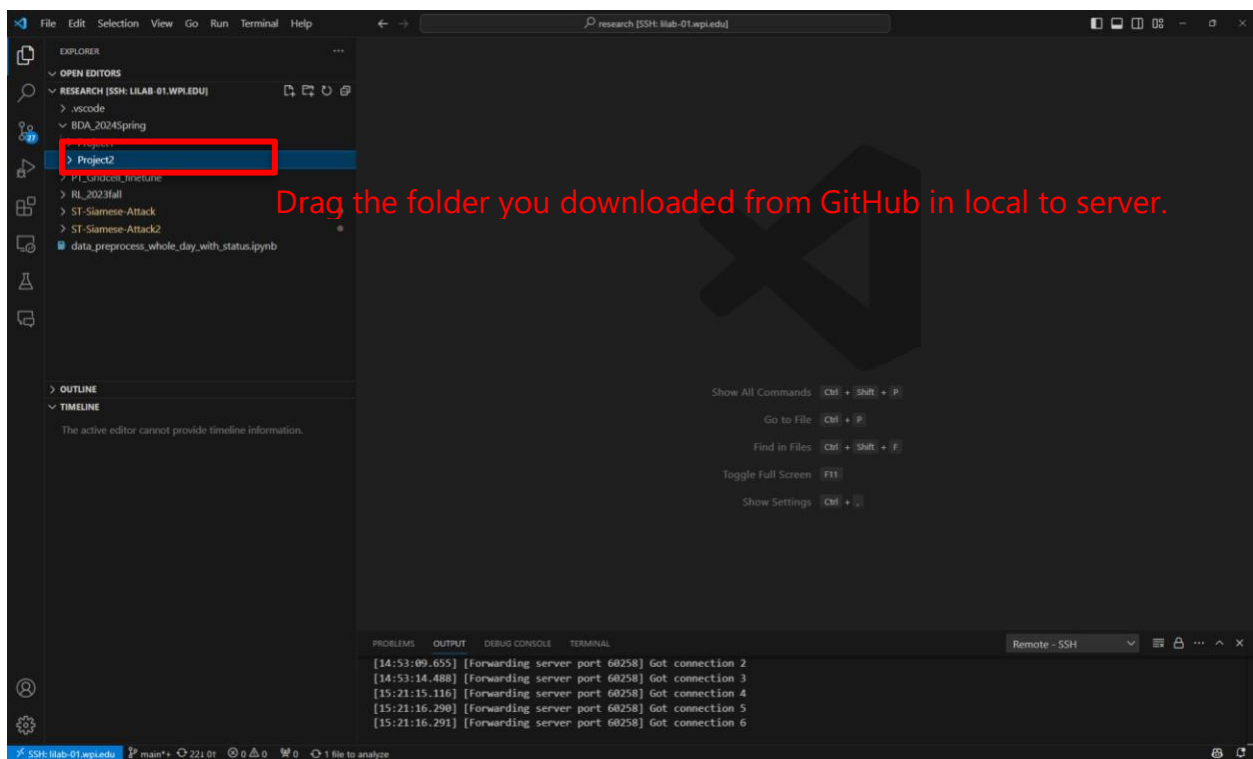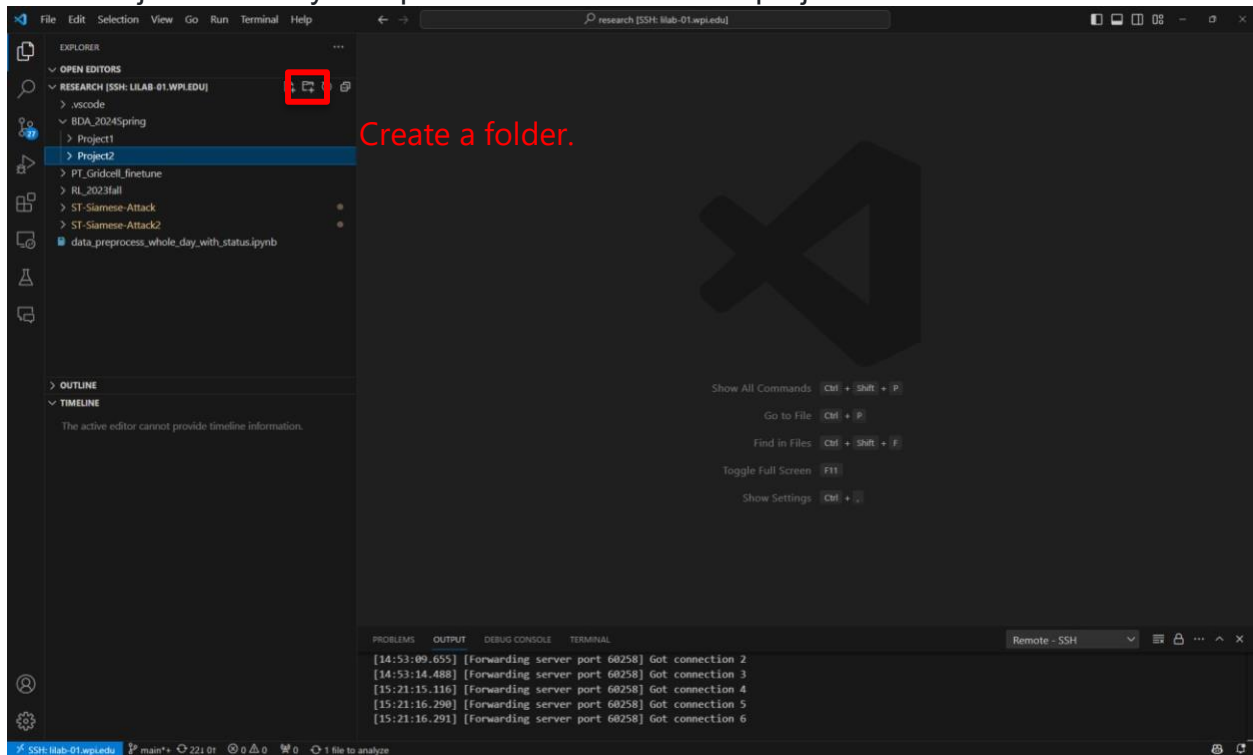
8. Navigate to the Directory using `cd path` ("path" is the dictionary you have
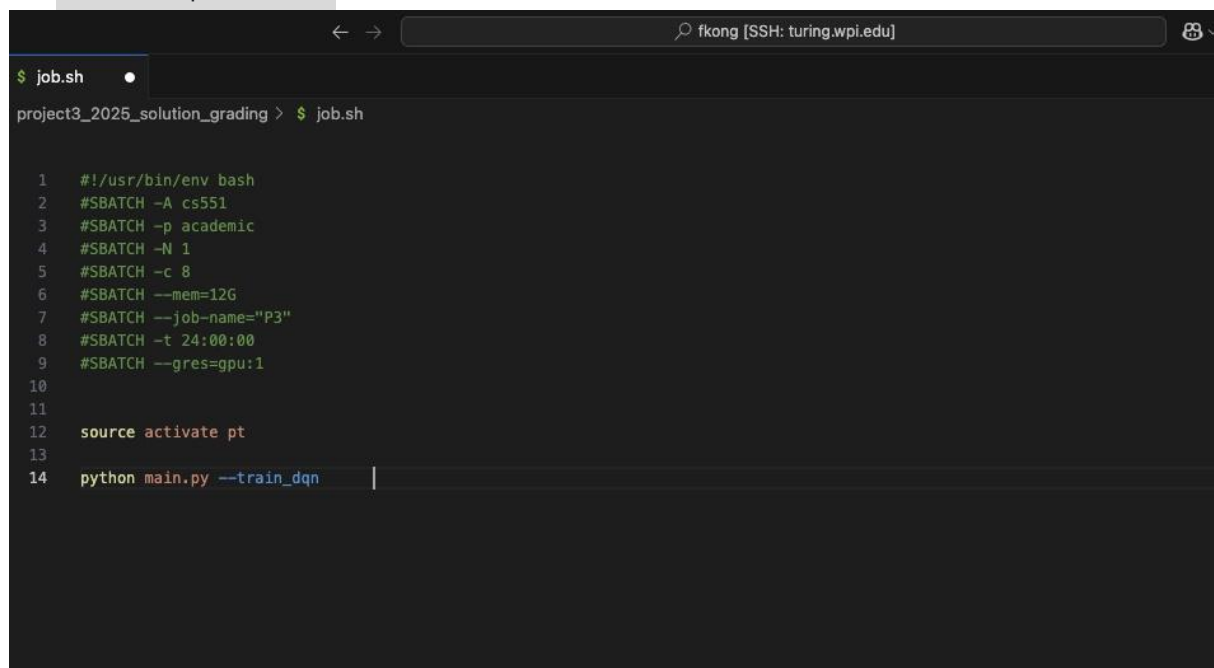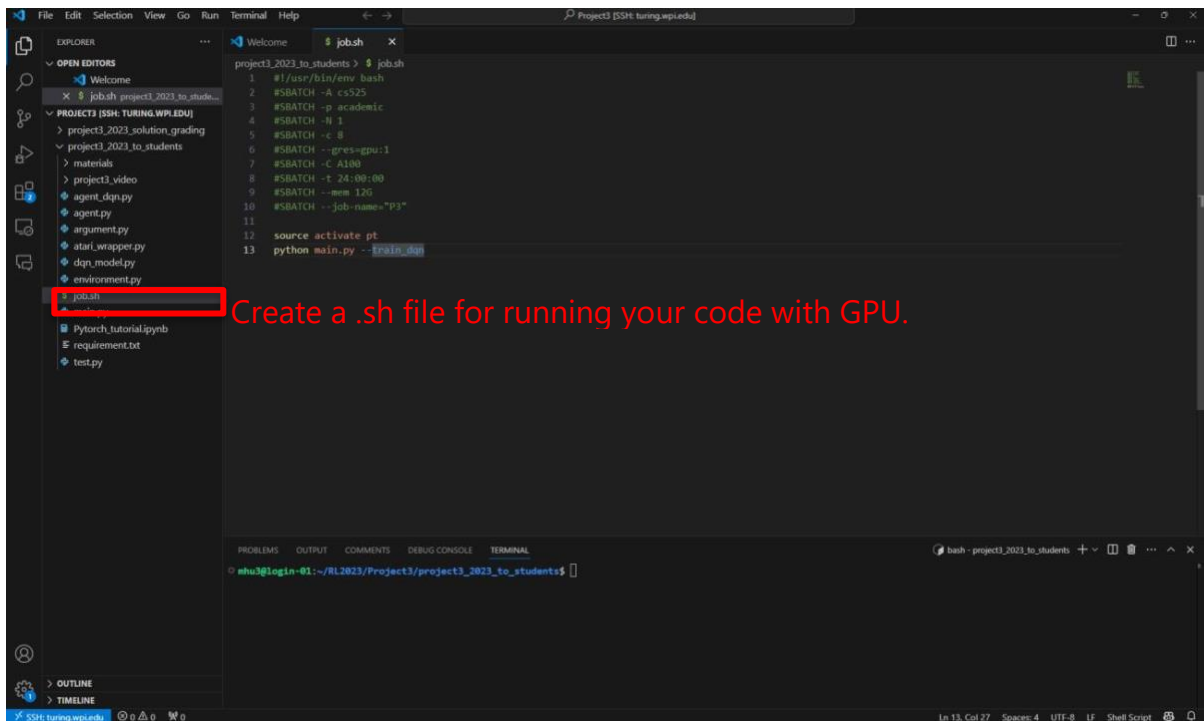
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9. Prepare Your Job:

Ensure you have a script (e.g., job.sh) ready. This script should specify the necessary resources (like CPU cores, RAM, GPU) and contain the instructions for running your job. Please make sure you have the following lines in the script.

```
#SBATCH -A cs551
#SBATCH -p academic
```

Create a .sh file for running your code with GPU.

10. Use the following command to submit your job : `sbatch job.sh`
11. Launch an Interactive Session for Testing: Use `sinteractive`.

This command is particularly useful when you want to test your code on the server's resources before running the actual job. Note that in an interactive session:

- Your terminal session must remain active for the duration of the session.
- Any code you run will execute immediately, unlike the batch mode (sbatch), which queues your job to be run based on the server's schedule and available resources.

After running this command, wait for the server (in this case, Turing) to allocate resources to you, such as a GPU. Once resources are assigned and your prompt changes, you're in an interactive session and can run commands as if you're on the allocated node.