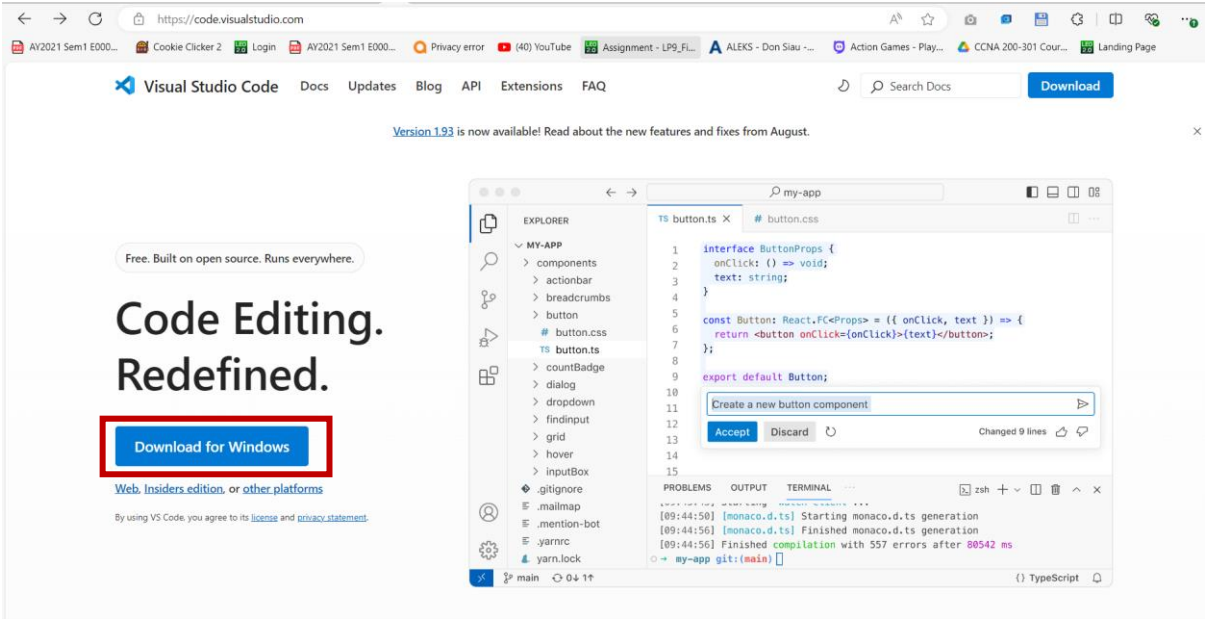
GitHub Link: https://github.com/DonSiau/SQL_Grading.git

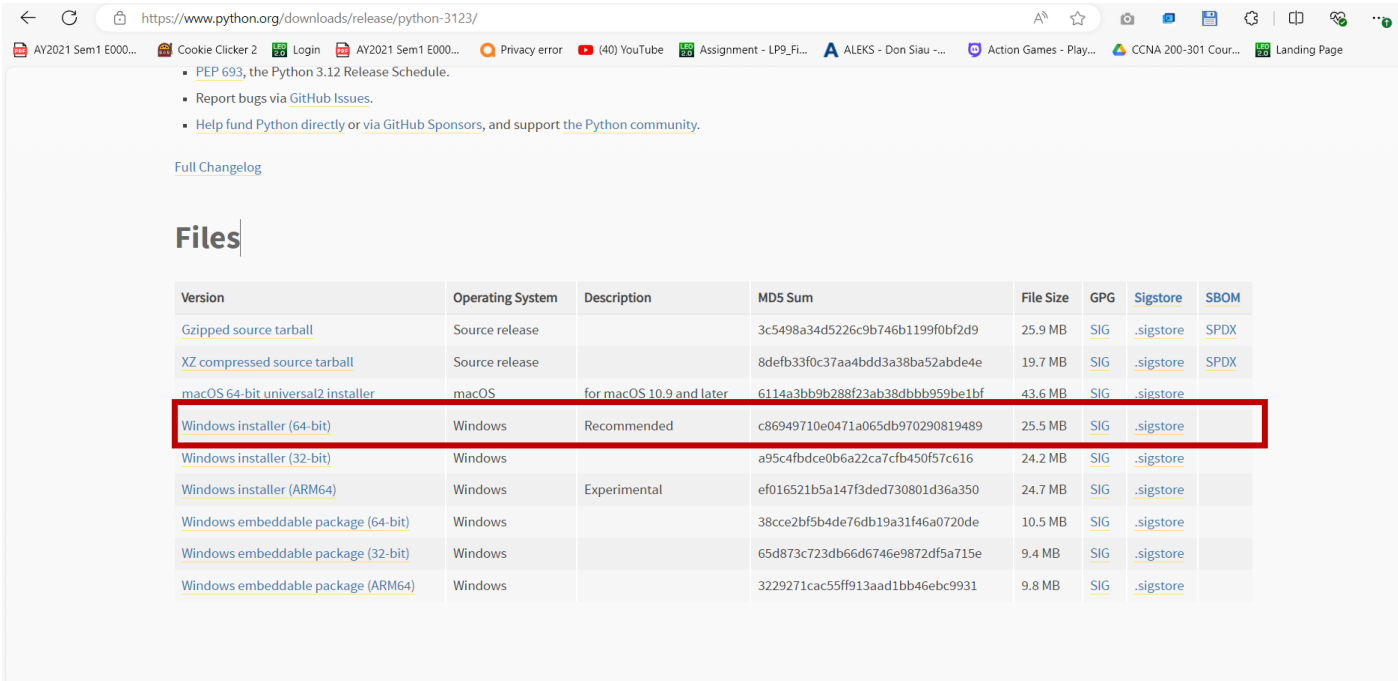
Prerequisites:

1)Visual Studio Code (VSC):
https://code.visualstudio.com/?wt.mc_id=vscom_downloads

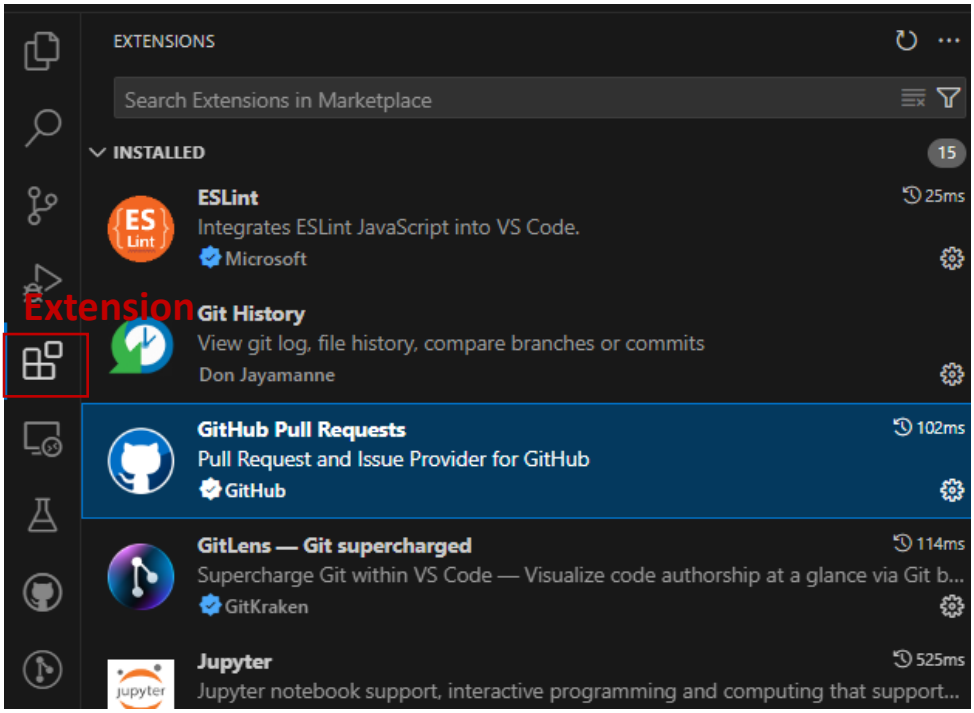


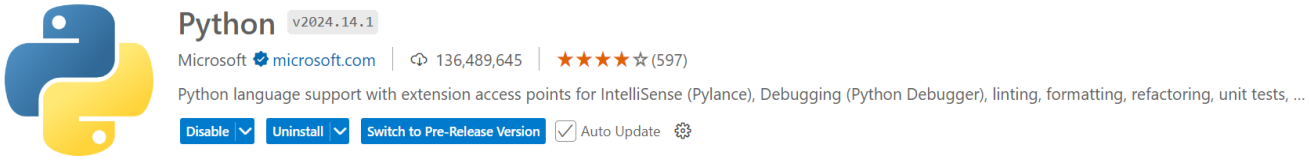
2)Python 3.12.3 Python Release Python 3.12.3 | Python.org

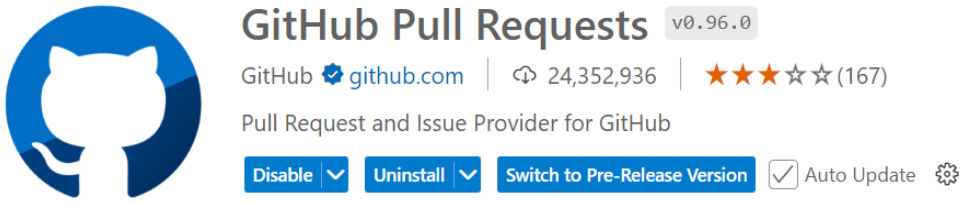
Scroll down on the website to see download files, and download the version highlighted in red



3)Python and GitHub Pull Requests extensions: Download from VSC extensions on the Extension panel. After installed, click on the extensions and enable them

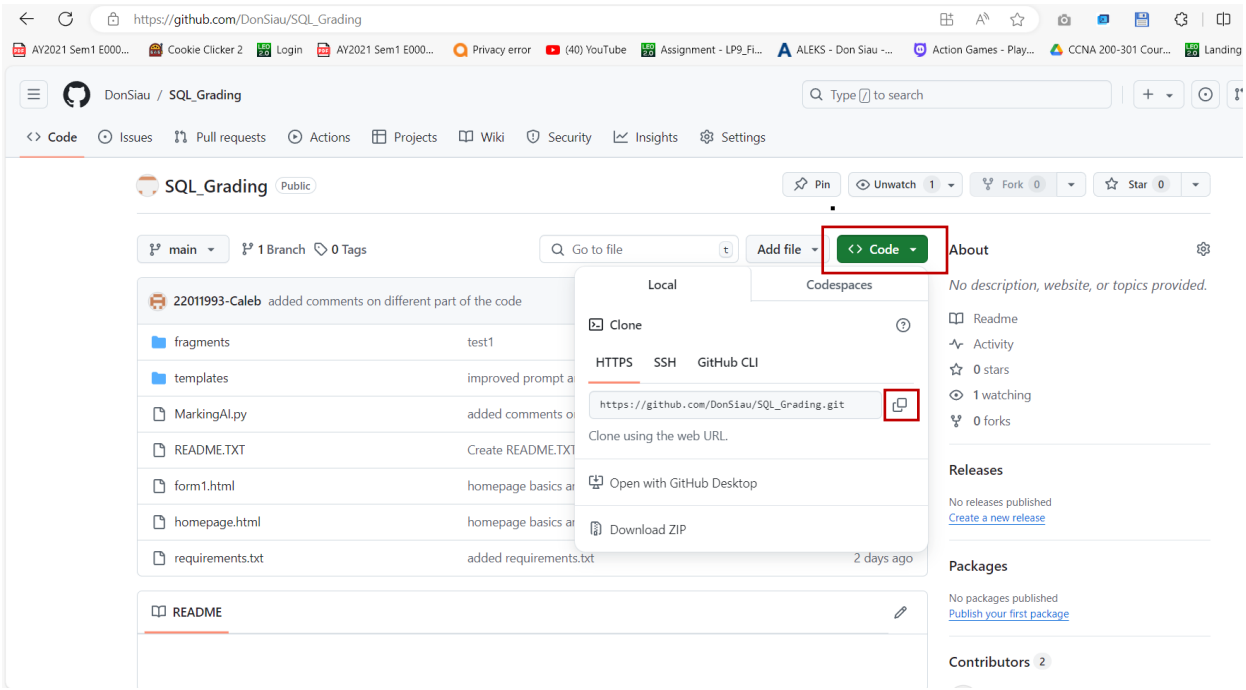




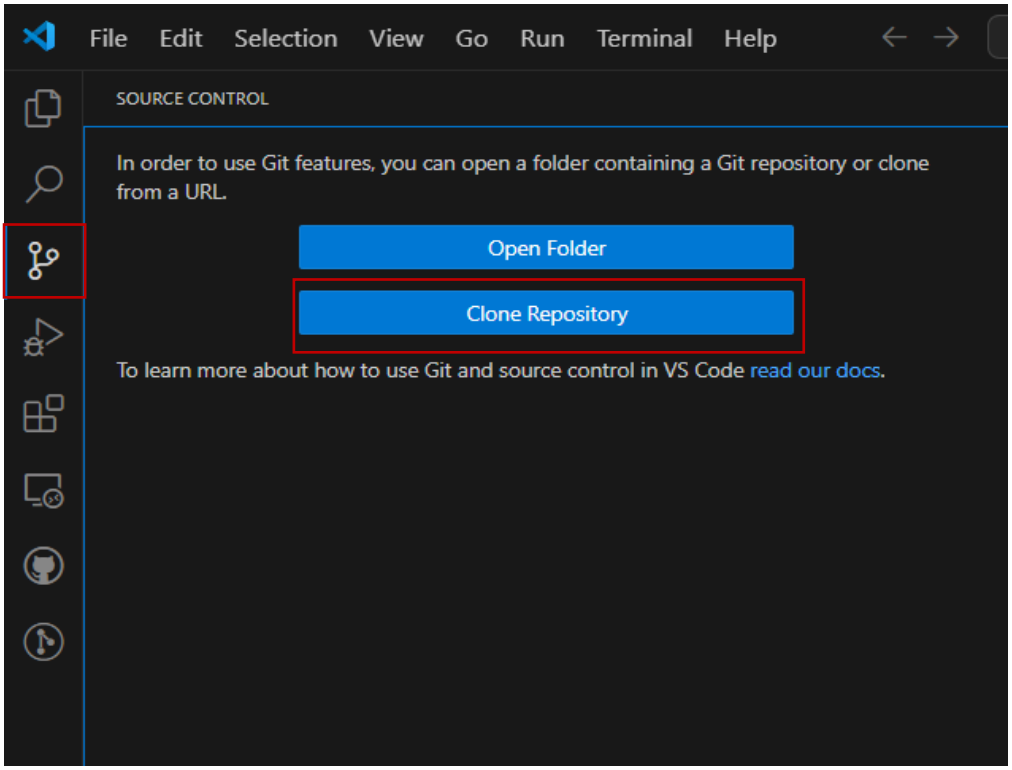


Installation

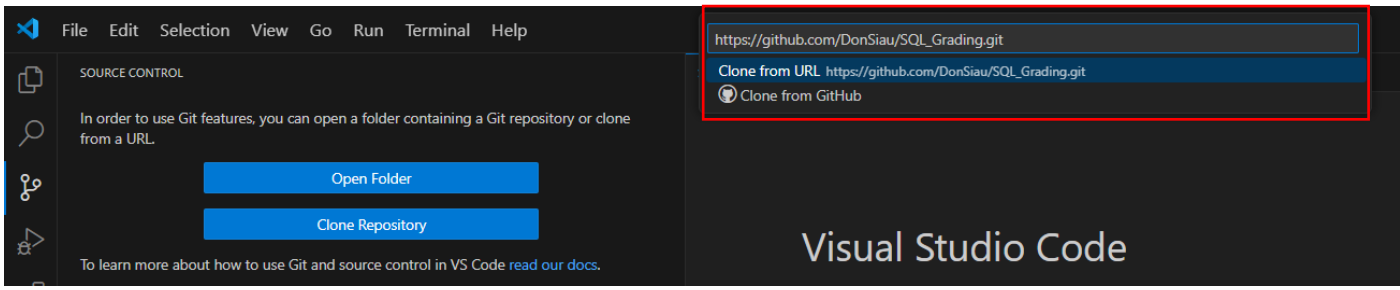
Step 1: Go to the GitHub link. Click on “Code”, then copy the HTTPS link



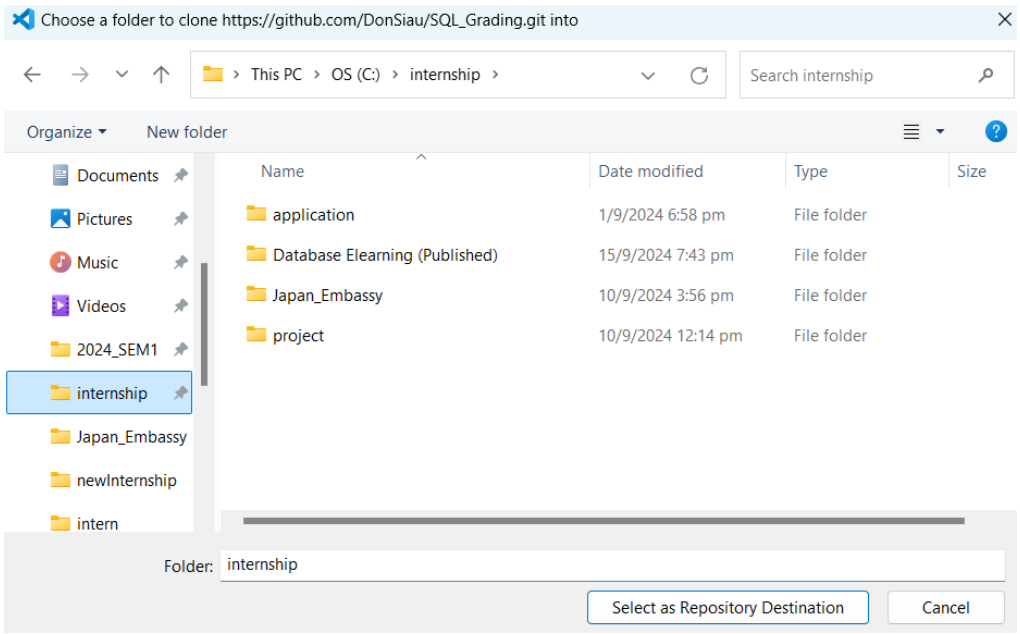
Step 2: on VSC the repository. Click the “Source control” panel and click “Clone Repository”



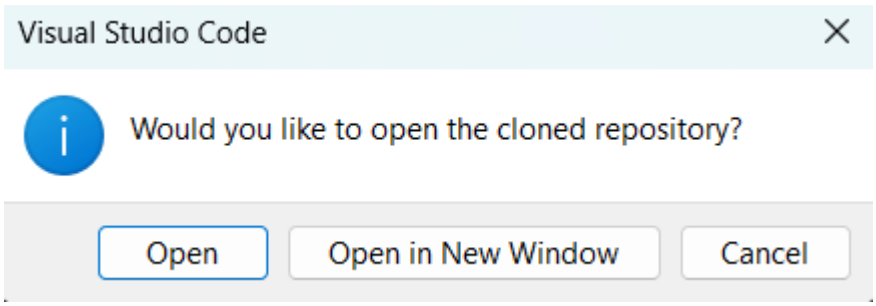
Step 3: Paste the HTTPS link into the search bar. Then press enter



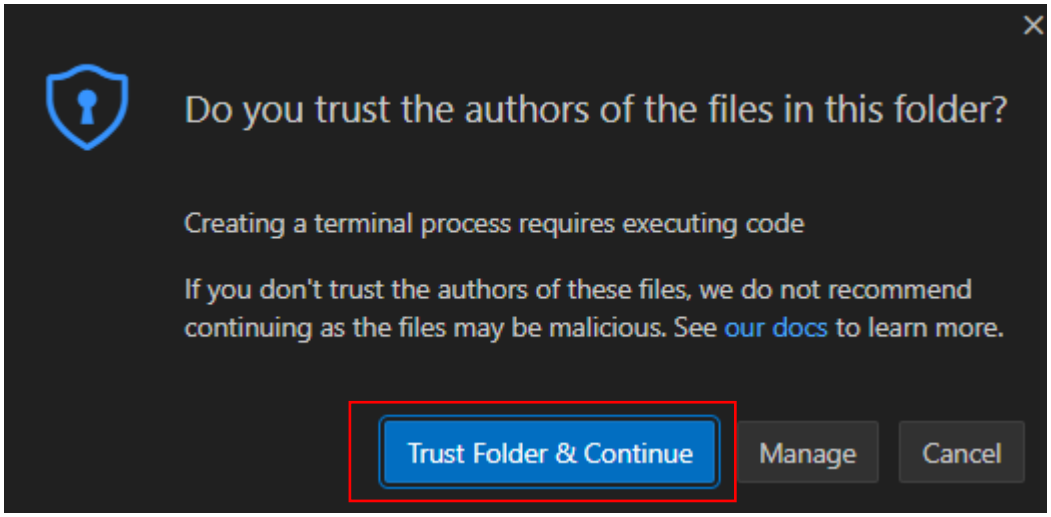
Step 4: Choose a folder to clone the repository to. Then click “Select as Repository Destination”

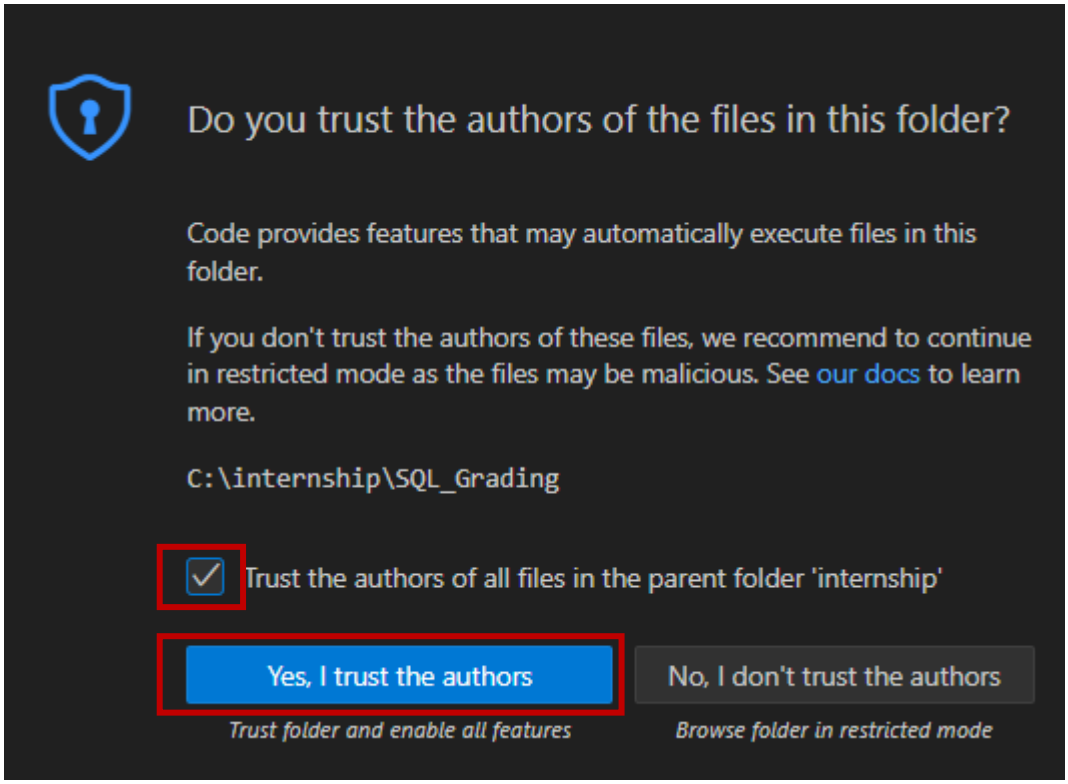


Step 5: On VSC this prompt appears. press open.

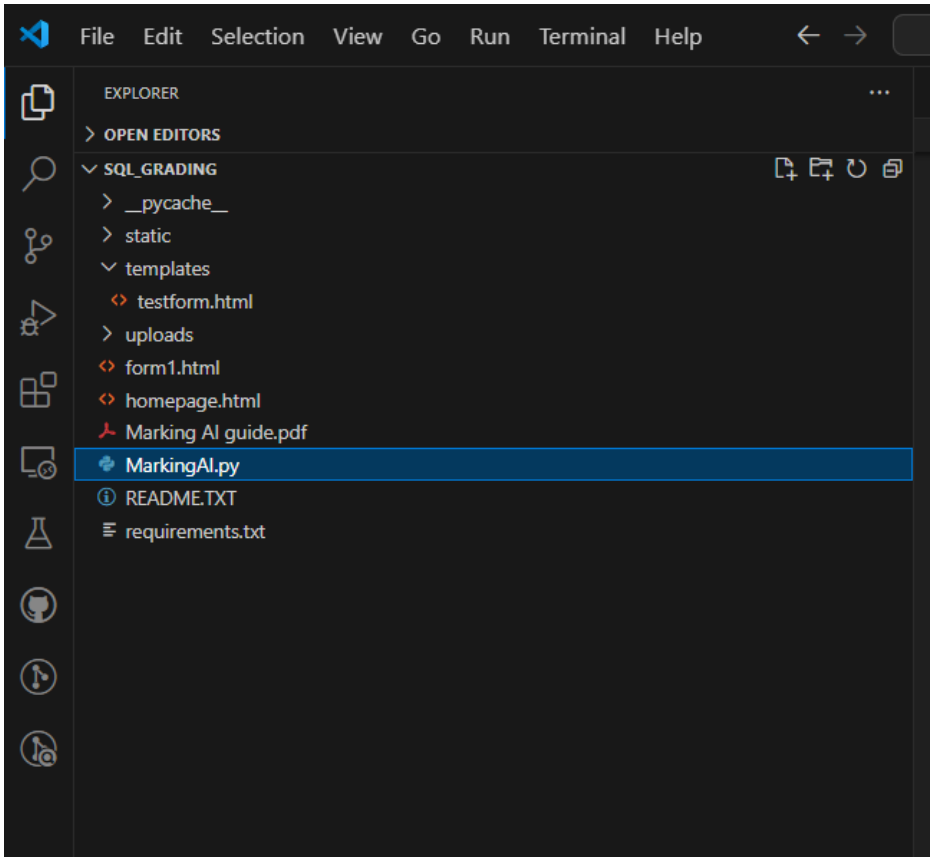


Step 6: On VSC these prompts appear. Click that you trust the authors like the images below

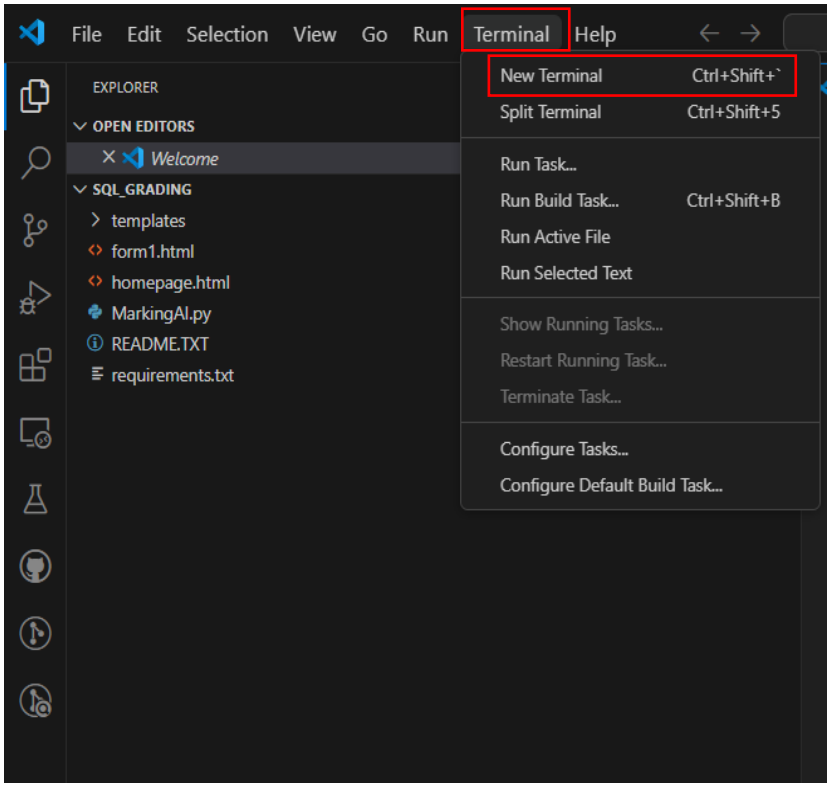




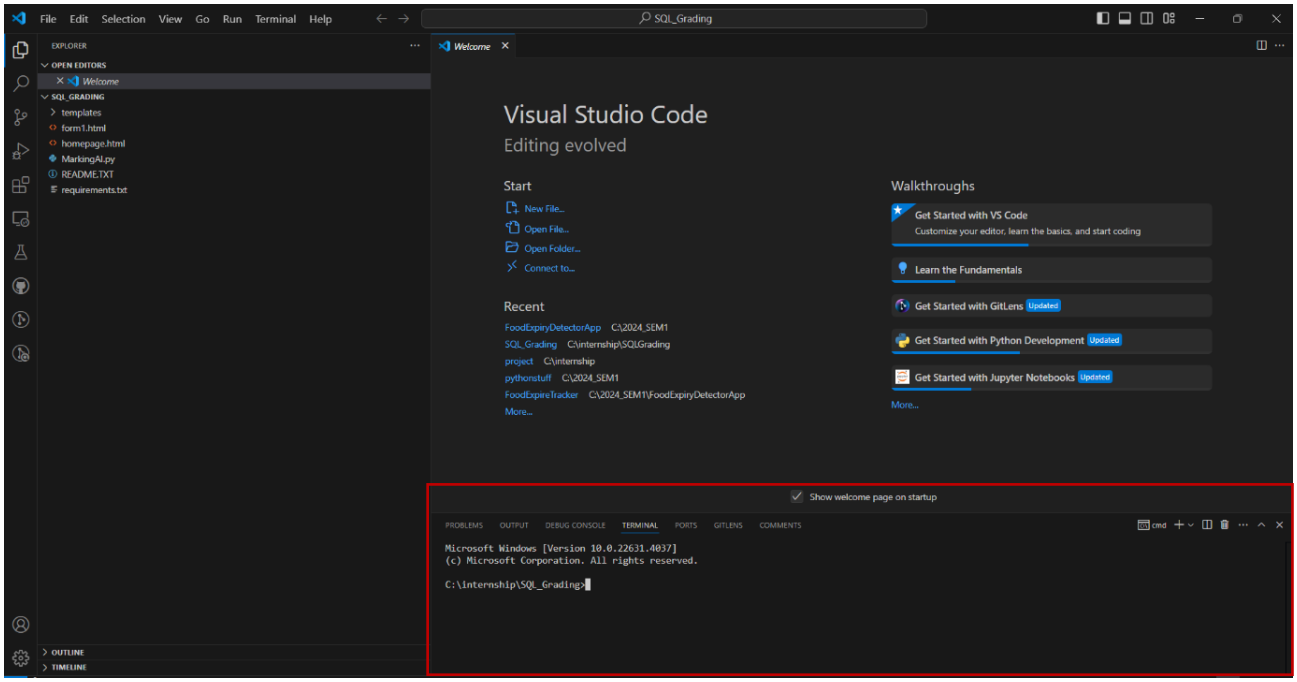
Now on the sidebar the project has been imported



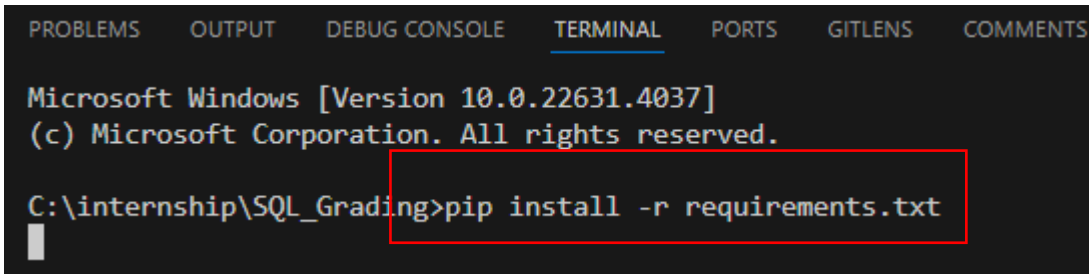
Step 7: click “Terminal” and “New Terminal”



A terminal appears at the bottom of screen



Step 8: Input “pip install -r requirements.txt” and press enter (do it in the SQL_Grading directory)



If it is not working, manually install the requirements on the SQL_Grading directory by running the commands one by one

pip install Flask==3.0.3

pip install pandas==2.2.2

pip install Requests==2.32.3

pip install openpyxl==3.1.5

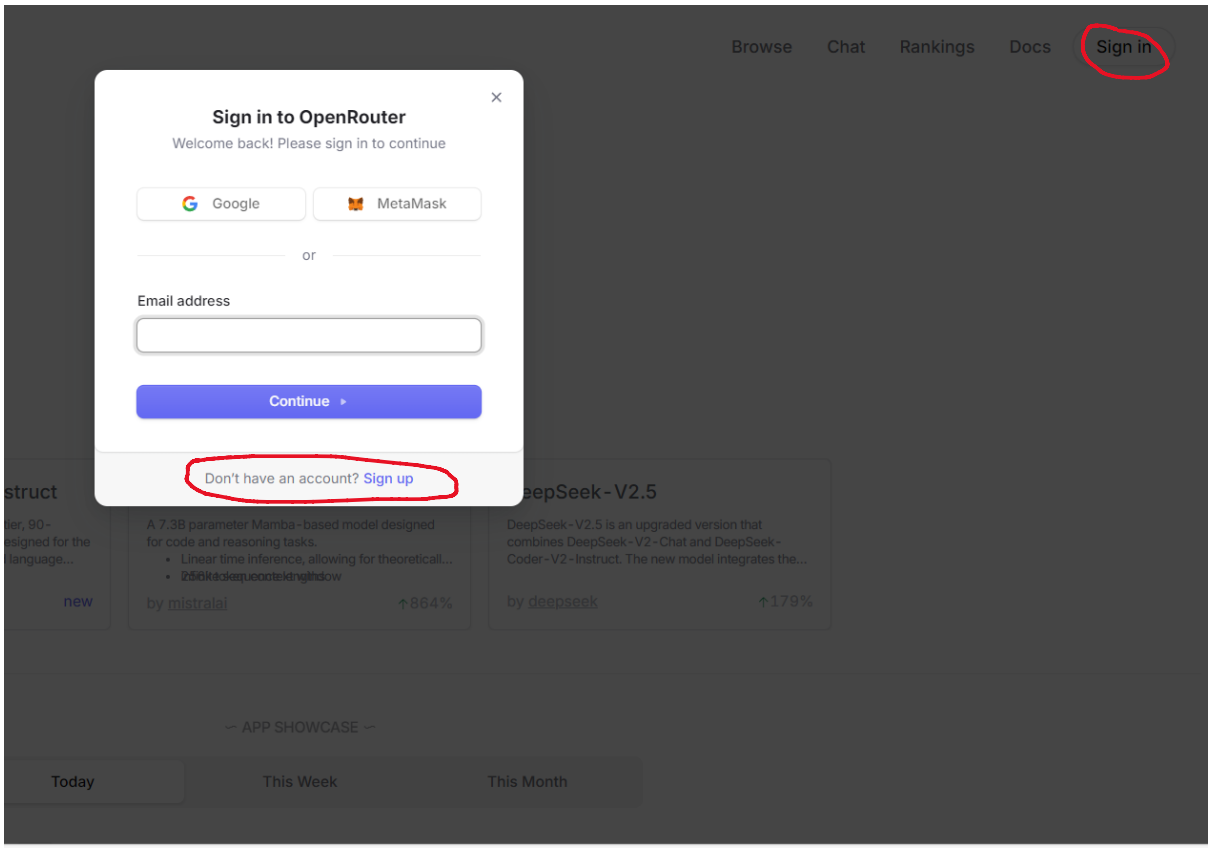
Below is an example for installing Flask and Pandas manually Do the same for the other requirements if the “pip install -r requirements.txt” command does not work

```
C:\internship\SQL_Grading>pip install Flask==3.0.3
Requirement already satisfied: Flask==3.0.3 in c:\python312\lib\site-packages (3.0.3)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\python312\lib\site-packages (from Flask
==3.0.3) (3.0.3)
Requirement already satisfied: Jinja2>=3.1.2 in c:\python312\lib\site-packages (from Flask==
3.0.3) (3.1.4)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\python312\lib\site-packages (from F
lask==3.0.3) (2.2.0)
Requirement already satisfied: click>=8.1.3 in c:\python312\lib\site-packages (from Flask==3
.0.3) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in c:\python312\lib\site-packages (from Flask=
=3.0.3) (1.8.2)
Requirement already satisfied: colorama in c:\python312\lib\site-packages (from click>=8.1.3
->Flask==3.0.3) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\python312\lib\site-packages (from Jinja
2>=3.1.2->Flask==3.0.3) (2.1.5)

[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\internship\SQL_Grading>

C:\internship\SQL_Grading>pip install pandas==2.2.2
Requirement already satisfied: pandas==2.2.2 in c:\users\22001326\appdata\roaming\python\pyt
hon312\site-packages (2.2.2)
Requirement already satisfied: numpy>=1.26.0 in c:\users\22001326\appdata\roaming\python\pyt
hon312\site-packages (from pandas==2.2.2) (1.26.4)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\22001326\appdata\roaming\p
ython\python312\site-packages (from pandas==2.2.2) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\22001326\appdata\roaming\python\pyth
on312\site-packages (from pandas==2.2.2) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in c:\users\22001326\appdata\roaming\python\py
thon312\site-packages (from pandas==2.2.2) (2024.1)
Requirement already satisfied: six>=1.5 in c:\python312\lib\site-packages (from python-dateu
til>=2.8.2->pandas==2.2.2) (1.16.0)
```

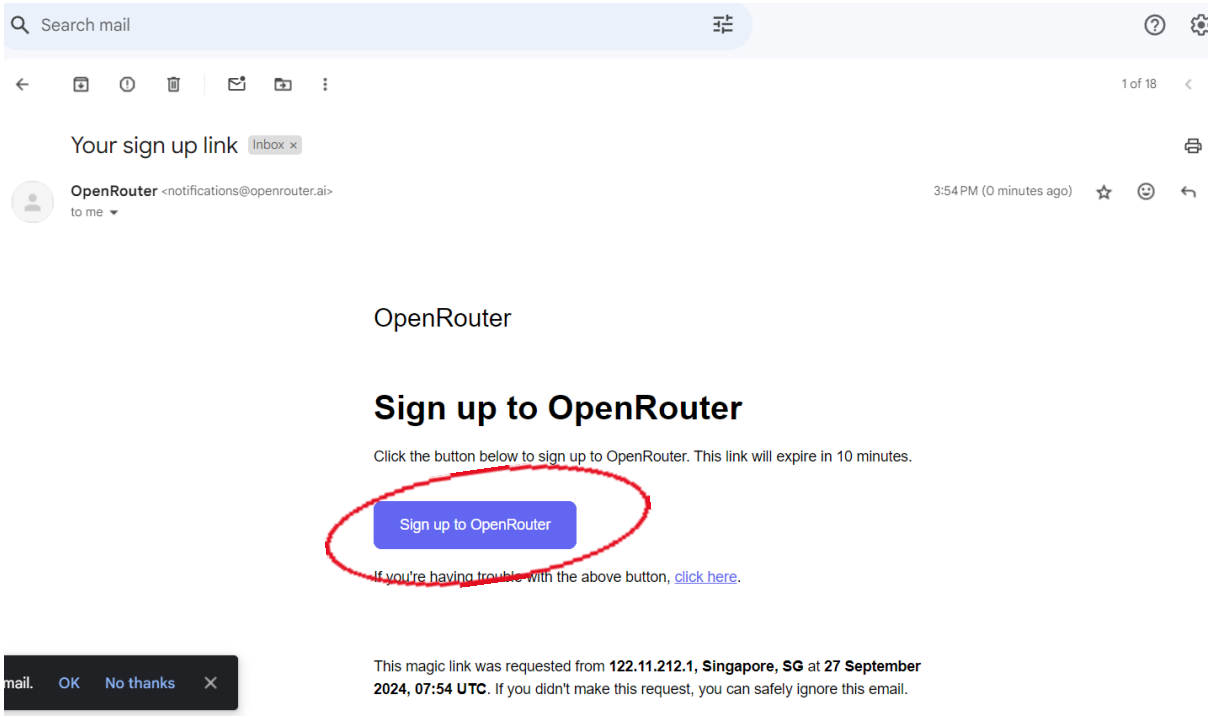
Now the requirements are installed (note in the image the requirements were already preinstalled, so it would look different on your end)

```
Microsoft Windows [Version 10.0.22631.4037]
(c) Microsoft Corporation. All rights reserved.

C:\internship\SQL_Grading>pip install -r requirements.txt
Requirement already satisfied: Flask==3.0.3 in c:\python312\lib\site-packages (from -r requirements.txt (line 1)) (3.0.3)
Requirement already satisfied: pandas==2.2.2 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from -r requirements.txt (line 2)) (2.2.2)
Requirement already satisfied: Requests==2.32.3 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from -r requirements.txt (line 3)) (2.3
2.3)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\python312\lib\site-packages (from Flask==3.0.3->-r requirements.txt (line 1)) (3.0.3)
Requirement already satisfied: Jinja2>=3.1.2 in c:\python312\lib\site-packages (from Flask==3.0.3->-r requirements.txt (line 1)) (3.1.4)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\python312\lib\site-packages (from Flask==3.0.3->-r requirements.txt (line 1)) (2.2.0)
Requirement already satisfied: click>=8.1.3 in c:\python312\lib\site-packages (from Flask==3.0.3->-r requirements.txt (line 1)) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in c:\python312\lib\site-packages (from Flask==3.0.3->-r requirements.txt (line 1)) (1.8.2)
Requirement already satisfied: numpy>=1.26.0 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from pandas==2.2.2->-r requirements.txt (l
ine 2)) (1.26.4)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from pandas==2.2.2->-r requiremen
ts.txt (line 2)) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from pandas==2.2.2->-r requirements.txt (li
ne 2)) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from pandas==2.2.2->-r requirements.txt (
line 2)) (2024.1)
Requirement already satisfied: charset-normalizer<4,>=2 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from Requests==2.32.3->-r requi
rements.txt (line 3)) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in c:\python312\lib\site-packages (from Requests==2.32.3->-r requirements.txt (line 3)) (3.8)
Requirement already satisfied: urllib3<3,>=1.21.1 in c:\python312\lib\site-packages (from Requests==2.32.3->-r requirements.txt (line 3)) (2.2.1)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\22001326\appdata\roaming\python\python312\site-packages (from Requests==2.32.3->-r requirement
s.txt (line 3)) (2023.7.22)
Requirement already satisfied: colorama in c:\python312\lib\site-packages (from click>=8.1.3->Flask==3.0.3->-r requirements.txt (line 1)) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\python312\lib\site-packages (from Jinja2>=3.1.2->Flask==3.0.3->-r requirements.txt (line 1)) (2.1.5)
Requirement already satisfied: six>=1.5 in c:\python312\lib\site-packages (from python-dateutil>=2.8.2->pandas==2.2.2->-r requirements.txt (line 2)) (1.16.0
)

[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\internship\SQL_Grading>
```

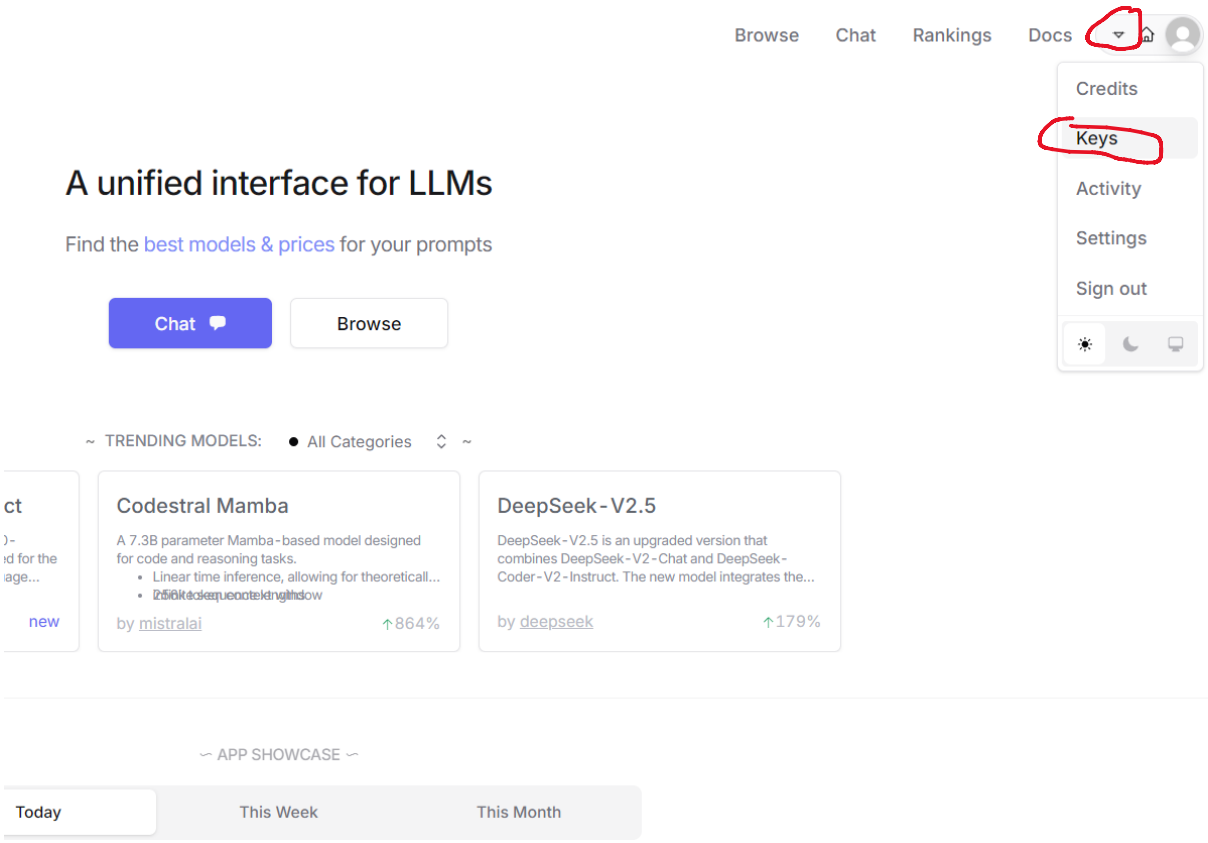
Step 9: the next few steps are for the AI model. Go to this website, which is the service provider for the AI (OpenRouter). Select Sign In and then signup for the service



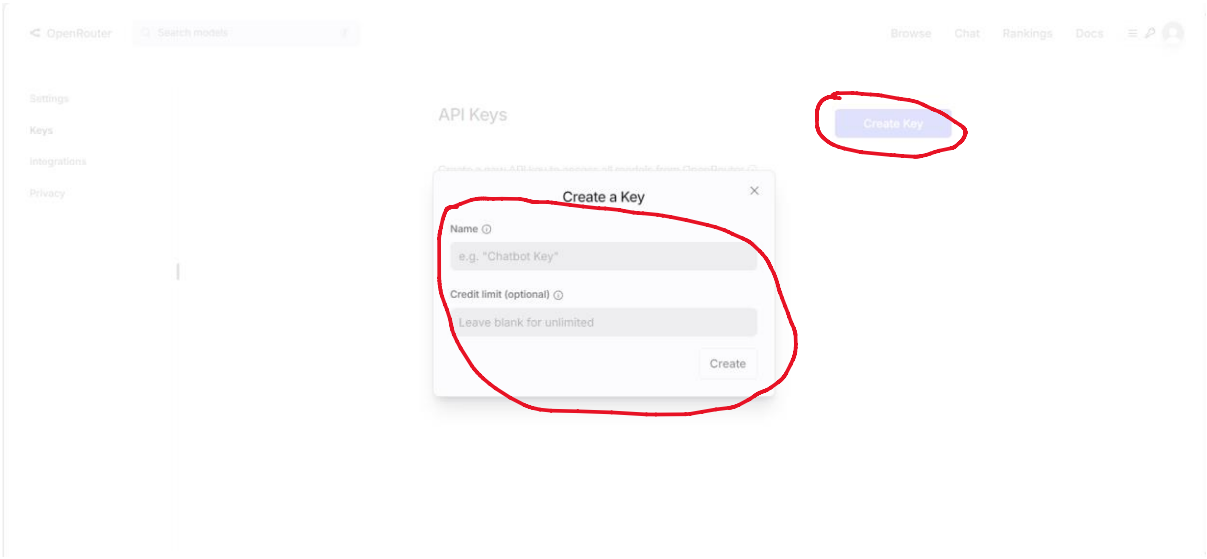
After signing up, email should be sent for you to sign in. click the sign up button, which should sign you in



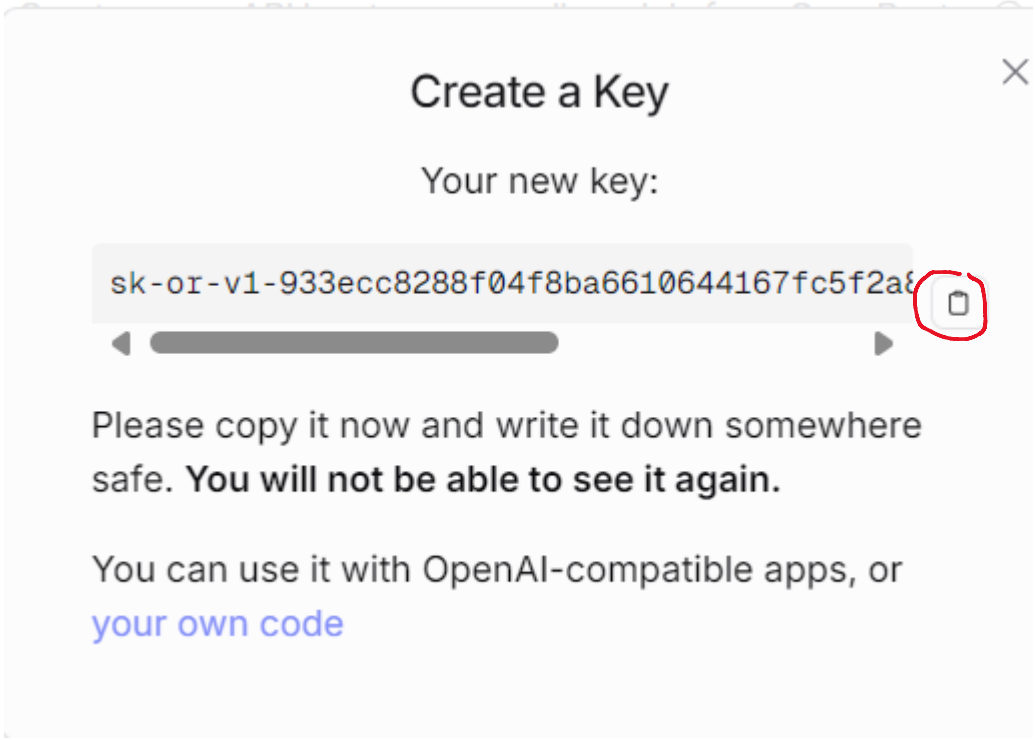
Step 10: now that you are signed in you need to get a api key. Go to the icon in the top right and select keys



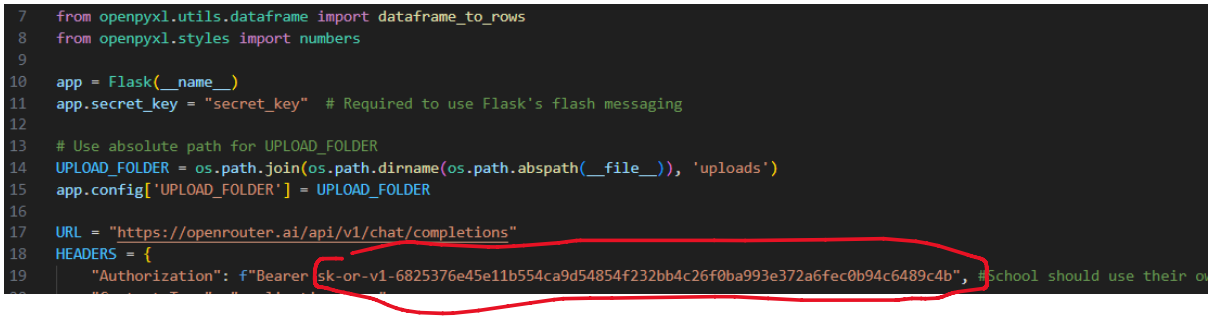
Step 11: generate your api key. Click “Create Key”, the blue button highlighted in red, and then name your key before clicking create



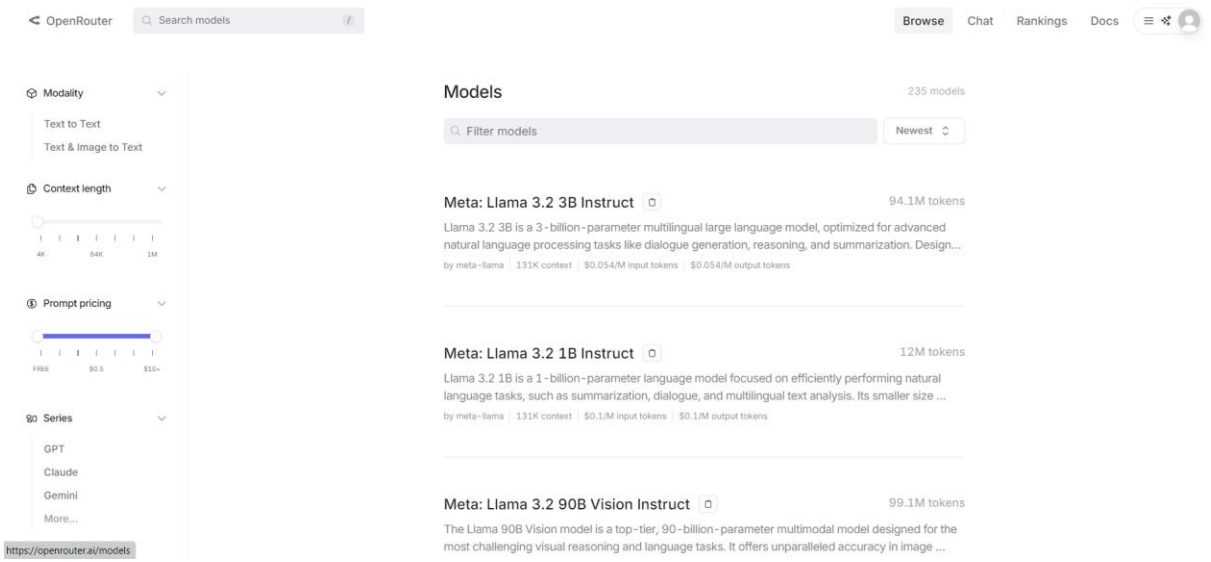
Step 12: copy the Key



Step 13: on the application on line 19 in MarkingAI.py, replace the key with your own key

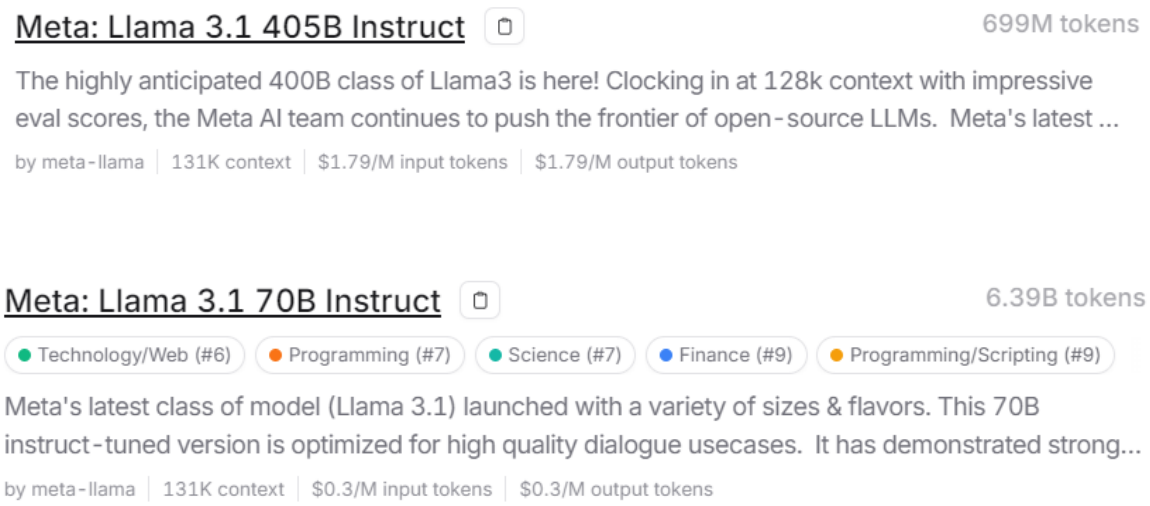


Step 14: click on browse to choose models. I have some general tips for picking a model



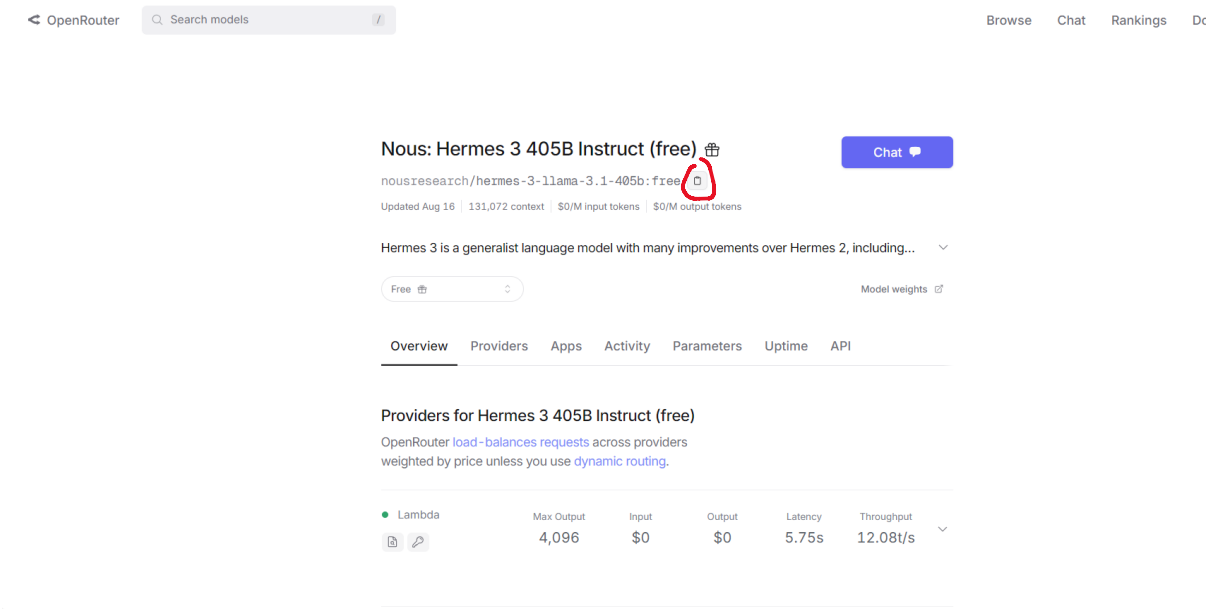
1. must use a “Instruct” model, chat models do not work. Do not use a vision model

2. more parameters are typically better, (405B is better than 70B)



3. price. Price is shown above. For example $0.3/M output and input tokens. A word is 3-4 tokens, so basically it is $0.3 each per 250,000 words of input and output

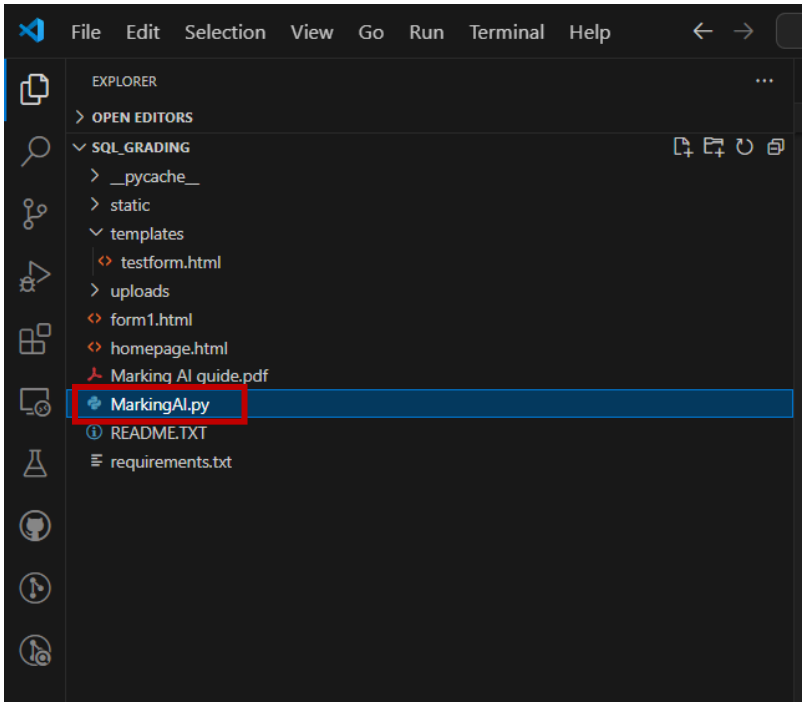
Step 15: the model we used is [Hermes 3 405B Instruct (free) - API, Providers, Stats | OpenRouter](), however you may use other models such as [Llama 3.1 405B Instruct - API, Providers, Stats | OpenRouter]() or other ones. Simply copy the name of the model



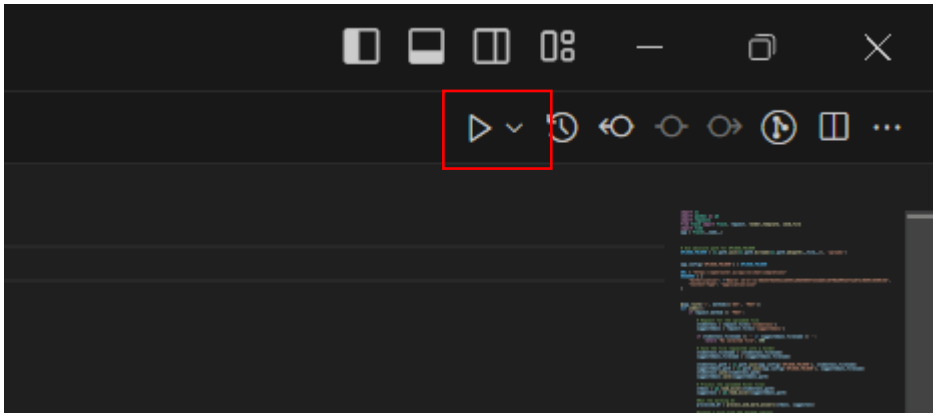
And then replace the model in line 134 with what you copied

Running the application

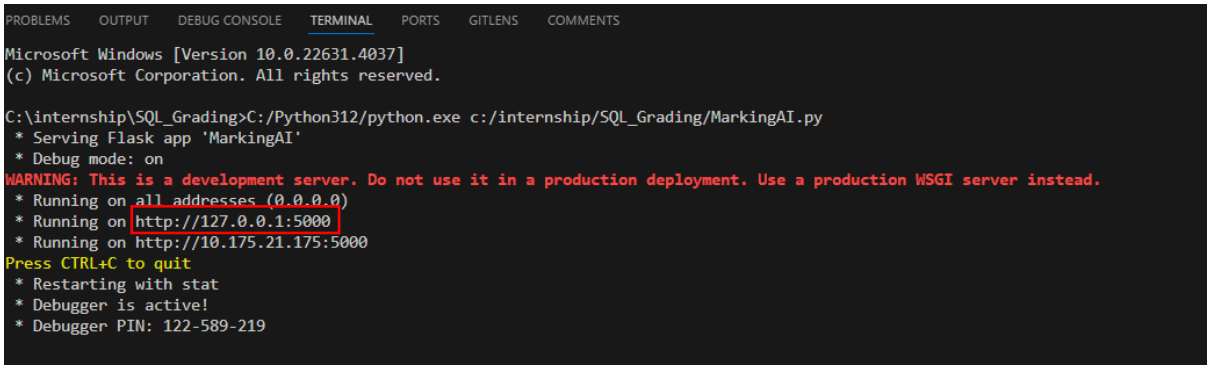
Step 9: Select the “MarkingAI.py”



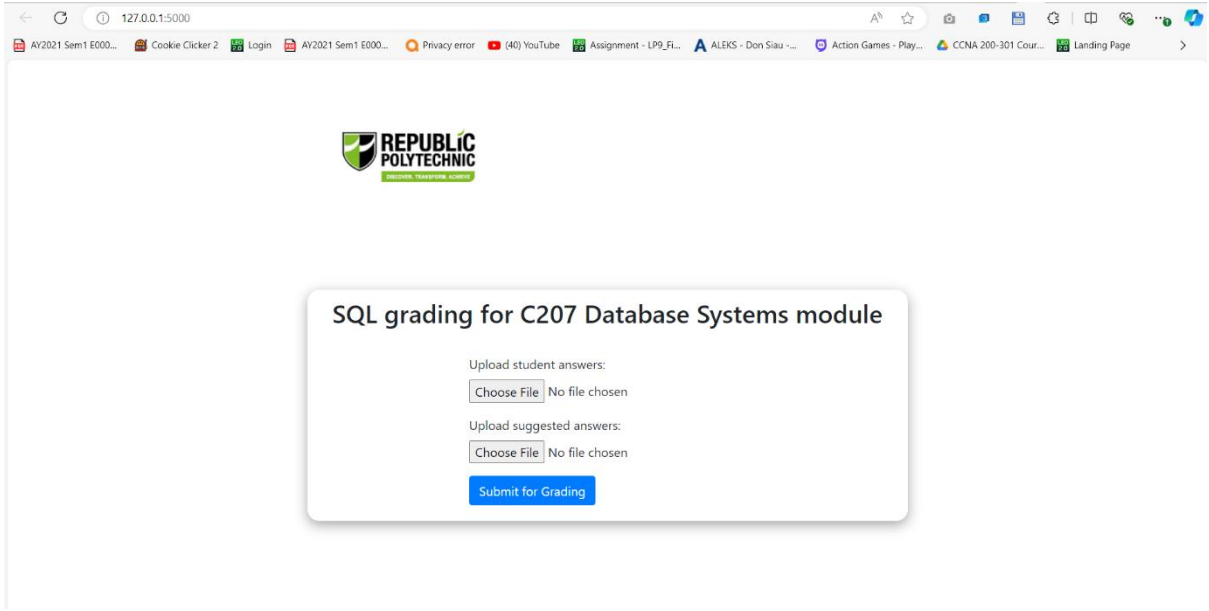
Press the run icon on the top right of the screen



Step 10: On the bottom of the screen in the this should run on the terminal. Hold the ctrl key whilst you click the link highlighted in the red box. (the address of the link might be different on your end, but it should still work)



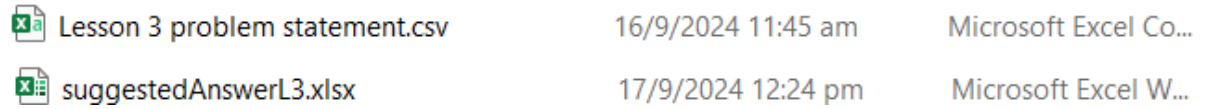
On your browser the application will appear



Step 11: Find the csv file for each problem statement. It contains the student answers. Find the xlsx file which contains the suggested answers. For each lesson, find the files that correspond with one another. For example:

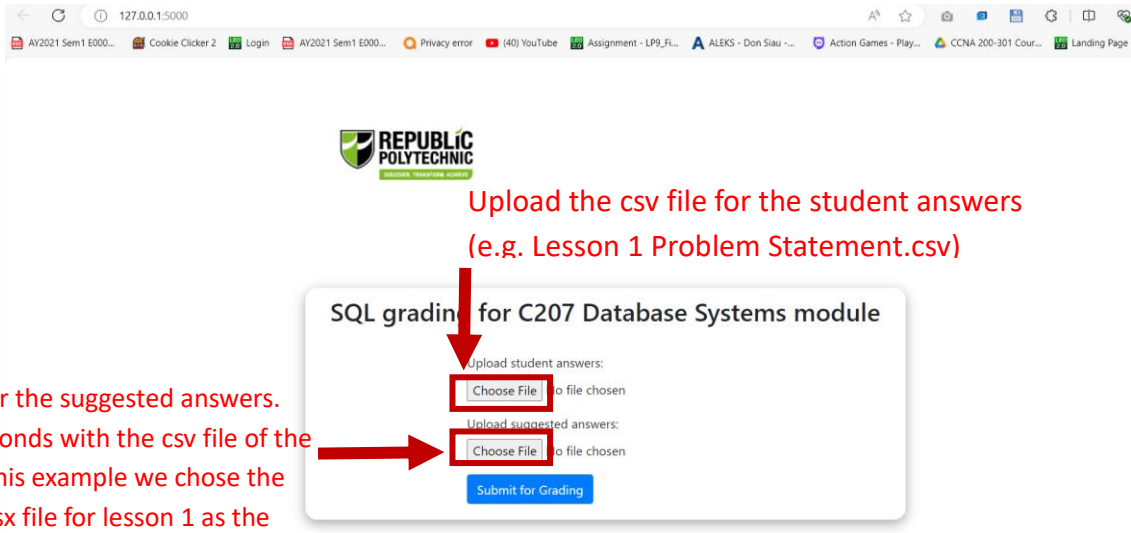
For lesson 1, find:

For lesson 3, find:



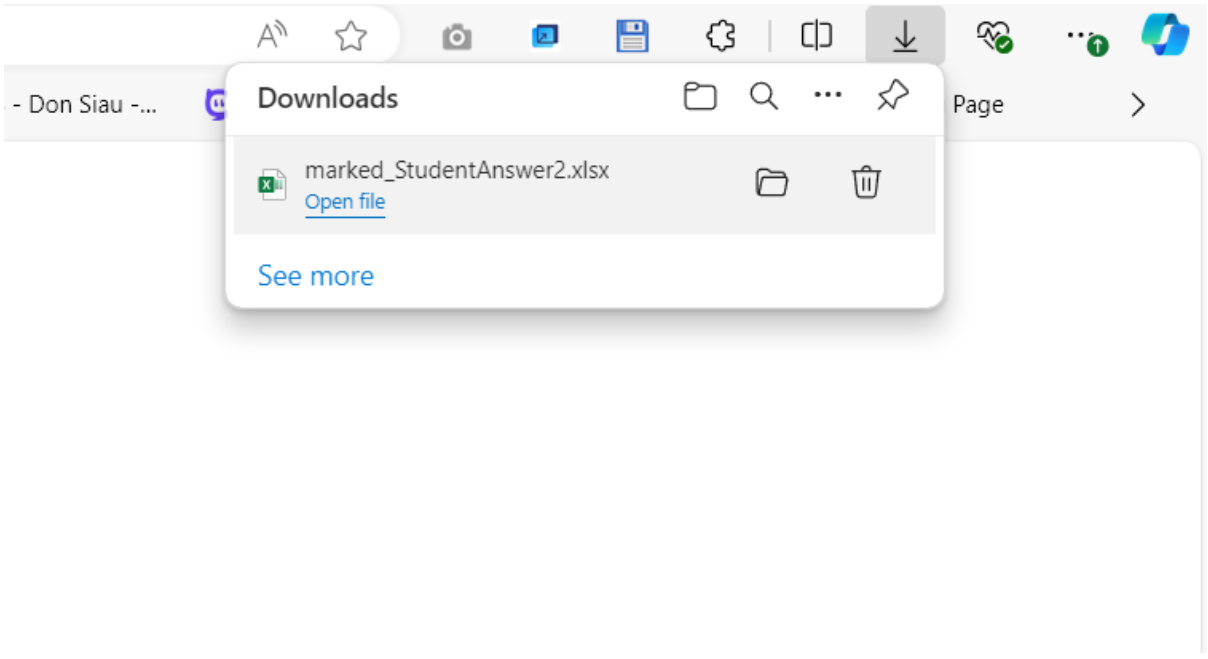
and the same for the other problem statements

Step 12: Now we will submit the quiz results for grading. Click the “Choose File” icons to do so

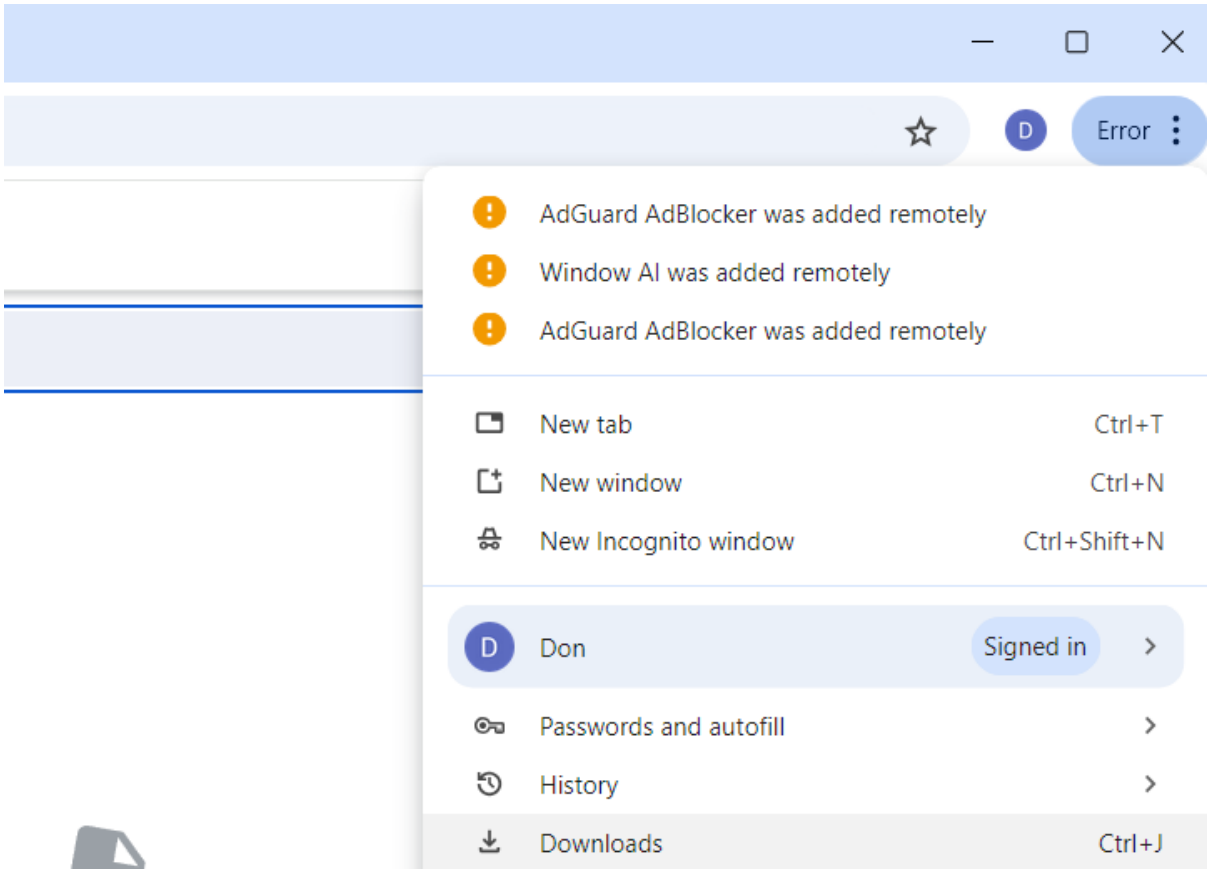


Step 13: Wait for the AI to run and once it is done your browser will download a marked excel version of the student's answers. (May take a while to download).

Edge browser



Chrome browser



Step 14: download it and view it. 2 marks means correct answer1 mark partially correct 0 marks the answer is blank. The left side is the student Info and their answers, the right side are the marks for each individual question, total marks and percentage