

**Q1) Do your numbers for question 8 change if you use LLM Generated Fields (rather than your downloaded fields)?**

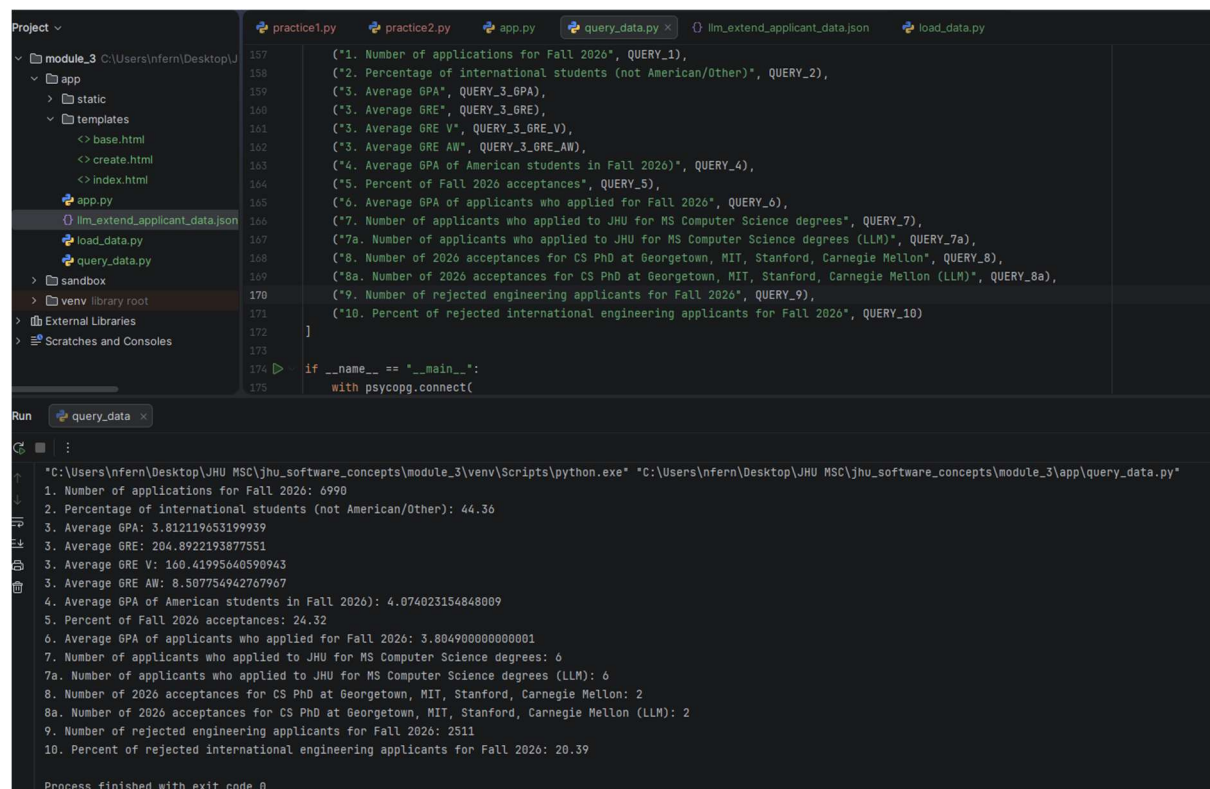
I created two extra queries (QUERY\_7a and QUERY\_8A) to test this question. The numbers did not change, perhaps because the LLM did a good job of cleaning the data for the degree and universities included in the queries.

**Q2) Next, come up with 2 additional questions that you are curious to answer — formulate those questions in words, and then write SQL code to answer.**

I chose the two extra queries listed below (QUERY\_9 and QUERY\_10) because I am an international student with a background in engineering.

1. Number of **rejected engineering** applicants for **Fall 2026**
2. Percent of **rejected international engineering** applicants for **Fall 2026**

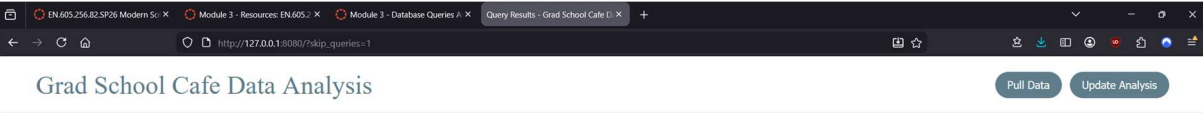
**Please see answers in the terminal output below for all assignment queries (including llm and my two additional queries). The output is produced from running query\_data.py which queries the cleaned dataset in the postgresql database.**



```
Project
└─ module_3 C:\Users\infern\Desktop\J
   └─ app
      └─ static
         └─ templates
            ├── base.html
            ├── create.html
            └─ index.html
            ├── app.py
            ├── llm_extend_applicant_data.json
            ├── load_data.py
            └─ query_data.py
      └─ sandbox
         └─ venv library root
      └─ External Libraries
      └─ Scratches and Consoles

Run query_data
C:\Users\infern\Desktop\JHU MSC\jhu_software_concepts\module_3\venv\Scripts\python.exe "C:\Users\infern\Desktop\JHU MSC\jhu_software_concepts\module_3\app\query_data.py"
1. Number of applications for Fall 2026: 6990
2. Percentage of international students (not American/Other): 44.36
3. Average GPA: 3.812119653199939
3. Average GRE: 204.8922193877551
3. Average GRE V: 160.41995640590943
3. Average GRE AW: 8.507754942767967
4. Average GPA of American students in Fall 2026: 4.074023154848009
5. Percent of Fall 2026 acceptances: 24.32
6. Average GPA of applicants who applied for Fall 2026: 3.8049000000000001
7. Number of applicants who applied to JHU for MS Computer Science degrees: 6
7a. Number of applicants who applied to JHU for MS Computer Science degrees (LLM): 6
8. Number of 2026 acceptances for CS PhD at Georgetown, MIT, Stanford, Carnegie Mellon: 2
8a. Number of 2026 acceptances for CS PhD at Georgetown, MIT, Stanford, Carnegie Mellon (LLM): 2
9. Number of rejected engineering applicants for Fall 2026: 2511
10. Percent of rejected international engineering applicants for Fall 2026: 20.39
Process finished with exit code 0
```

# Screenshot web application query results



## User Guidance

- 1. Use the Pull Data button in the top right navigation to fetch new Grad Cafe entries, clean them, and save them to the database. Existing entries are skipped based on URL.
- 2. Use the Update Analysis button in the top right navigation to refresh the query results.

Note: Update Analysis will not run while a Pull Data request is in progress.

Pulled 0 new entries into database, also saved in new\_only.json.

## Query Results

1. How many entries do you have in your database who have applied for Fall 2026?

Answer: Applicant count: 7078

2. What percentage of entries are from international students (not American or Other) (to two decimal places)?

Answer: Percent International: 44.36

3. What is the average GPA, GRE, GRE V, and GRE AW of applicants who provide these metrics?

Answer: GPA: 3.81, GRE: 205.04, GRE V: 160.42, GRE AW: 8.50

4. What is their average GPA of American students in Fall 2026?

Answer: Average GPA American: 4.07

5. What percent of entries for Fall 2026 are Acceptances (to two decimal places)?

Answer: Acceptance percent: 24.67

6. What is the average GPA of applicants who applied for Fall 2026 who are Acceptances?

Answer: Average GPA Acceptance: 3.81

7. How many entries are from applicants who applied to JHU for a masters degrees in Computer Science?

Answer: JHU CS Masters Applicants: 6

7a. Number of applicants who applied to JHU for MS Computer Science degrees (LLM)

Answer: JHU CS Masters Applicants (LLM): 6

8. How many entries from 2026 are acceptances from applicants who applied to Georgetown University, MIT, Stanford University, or Carnegie Mellon University for a PhD in Computer Science?

Answer: 2026 Acceptances for CS PhD at Georgetown, Stanford and Carnegie Mellon (LLM): 2

8a. Number of 2026 acceptances for CS PhD at Georgetown, MIT, Stanford, Carnegie Mellon (LLM)

Answer: 2026 Acceptances for CS PhD at Georgetown, Stanford and Carnegie Mellon (LLM): 2

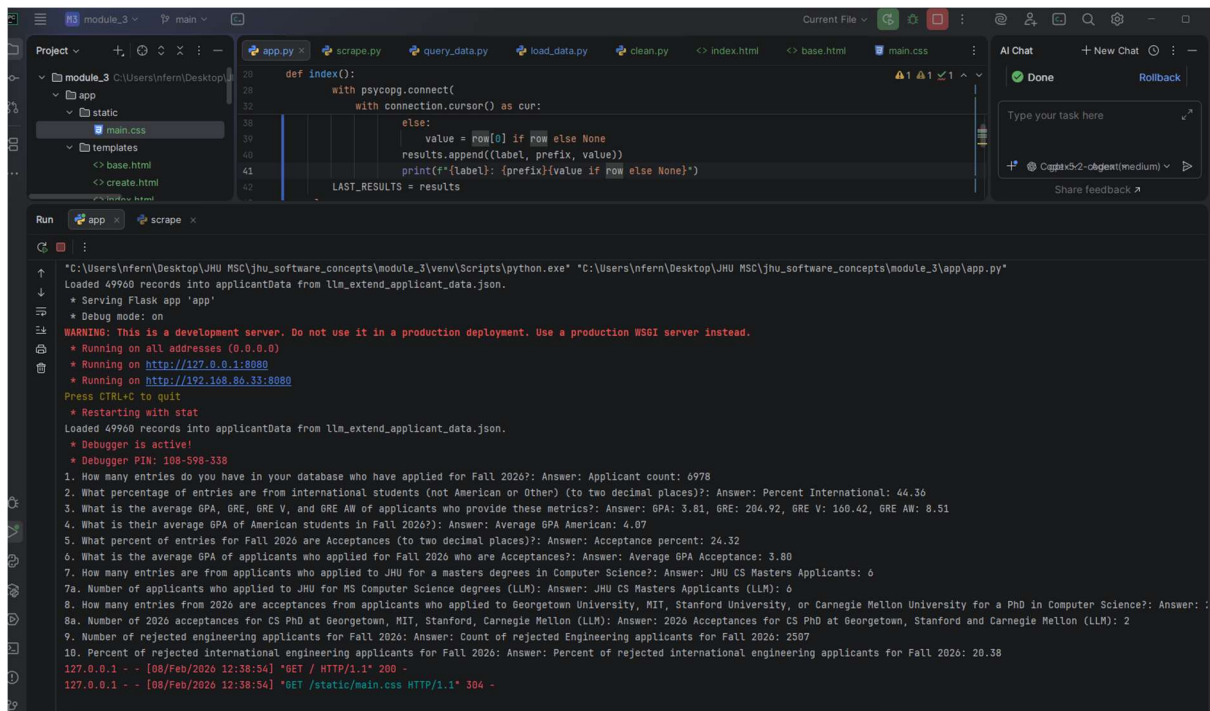
9. Number of rejected engineering applicants for Fall 2026

Answer: Count of rejected Engineering applicants for Fall 2026: 2538

10. Percent of rejected international engineering applicants for Fall 2026

Answer: Percent of rejected international engineering applicants for Fall 2026: 20.32

## Screenshot of console output for query results



The screenshot shows a code editor with a project named 'module\_3'. The file 'app.py' is open, displaying a function 'index()' that connects to a database using 'psycopg2', queries data, and returns it as JSON. The console output shows the application running on 'http://127.0.0.1:8080'. It logs the loading of 49940 records from 'llm\_extend\_applicant\_data.json' and displays a list of 10 query results. The results include counts and averages for various applicant groups and acceptance rates. The console also shows a warning about the development server and a debugger PIN.

```
def index():
    with psycopg2.connect(
        with connection.cursor() as cur:
            else:
                value = row[0] if row else None
                results.append((label, prefix, value))
                print(f'{label}: {prefix}{value if row else None}')
    LAST_RESULTS = results
```

```
*C:\Users\infer\Desktop\JHU MSC\jhu_software_concepts\module_3\venv\Scripts\python.exe "C:\Users\infer\Desktop\JHU MSC\jhu_software_concepts\module_3\app.py"
Loaded 49940 records into applicantData from llm_extend_applicant_data.json.
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:8080
* Running on http://192.168.86.33:8080
Press CTRL+C to quit
* Restarting with stat
Loaded 49940 records into applicantData from llm_extend_applicant_data.json.
* Debugger is active!
* Debugger PIN: 108-598-338
1. How many entries do you have in your database who have applied for Fall 2026?: Answer: Applicant count: 6978
2. What percentage of entries are from international students (not American or Other) (to two decimal places)? Answer: Percent International: 44.36
3. What is the average GPA, GRE, GRE V, and GRE AW of applicants who provide these metrics?: Answer: GPA: 3.81, GRE: 284.92, GRE V: 160.42, GRE AW: 8.51
4. What is their average GPA of American students in Fall 2026?: Answer: Average GPA American: 4.07
5. What percent of entries for Fall 2026 are Acceptances (to two decimal places)? Answer: Acceptance percent: 24.32
6. What is the average GPA of applicants who applied for Fall 2026 who are Acceptances? Answer: Average GPA Acceptance: 3.80
7. How many entries are from applicants who applied to JHU for a masters degrees in Computer Science?: Answer: JHU CS Masters Applicants: 6
7a. Number of applicants who applied to JHU for MS Computer Science degrees (LLM): Answer: JHU CS Masters Applicants (LLM): 6
8. How many entries from 2026 are acceptances from applicants who applied to Georgetown University, MIT, Stanford University, or Carnegie Mellon University for a PhD in Computer Science?: Answer: :
8a. Number of 2026 acceptances for CS PhD at Georgetown, MIT, Stanford, Carnegie Mellon (LLM): Answer: 2026 Acceptances for CS PhD at Georgetown, Stanford and Carnegie Mellon (LLM): 2
9. Number of rejected engineering applicants for Fall 2026: Answer: Count of rejected Engineering applicants for Fall 2026: 2507
10. Percent of rejected international engineering applicants for Fall 2026: Answer: Percent of rejected international engineering applicants for Fall 2026: 20.38
127.0.0.1 - - [08/Feb/2026 12:38:34] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [08/Feb/2026 12:38:34] "GET /static/main.css HTTP/1.1" 304 -
```