

Week #3 Labs

3.1: Python Flask Guestbook	1
5. Running the code	1
3.2:ag SQL	2
2. SQL quiz	2
3. GCP Cloud SQL	2
7. Cloud SQL from Cloud Shell	3
15. RDS Test instance	4
3.3: sqlite3 Guestbook	4
4. Running the code	4
5. Sqlite3 database	5

3.1: Python Flask Guestbook

5. Running the code

The terminal window shows the output of a pip install command for a Python Flask guestbook application. It lists the installation of various dependencies: Werkzeug, Jinja2, itsdangerous, click, and MarkupSafe. The message "Successfully installed Jinja2-3.1.4 MarkupSafe-3.0.1 Werkzeug-3.0.4" is displayed. The browser window shows a "Guestbook" form with fields for Name, Email, and Message, and a "Sign" button. Below the form is a section titled "Entries" showing a single entry from "Nathan Metens <metens@pdx.edu>" dated "signed on 2024-10-16 python/flask guestbook".

```
Terminal - metens@course-vm1: ~/cs430-src/01_mvc_p
File Edit View Terminal Tabs Help
Collecting Werkzeug==3.0.0
  Downloading werkzeug-3.0.4-py3-none-any.whl (227 kB)
Collecting Jinja2>=3.1.2
  Downloading jinja2-3.1.4-py3-none-any.whl (133 kB)
Collecting itsdangerous>=2.1.2
  Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Collecting click>=8.1.3
  Downloading click-8.1.7-py3-none-any.whl (97 kB)
Collecting blinker>=1.6.2
  Downloading blinker-1.8.2-py3-none-any.whl (9.5 kB)
Collecting MarkupSafe==2.0
  Downloading MarkupSafe-3.0.1-cp311-cp311-manylinux_2_17_x86_64.manylinux20
Installing collected packages: MarkupSafe, itsdangerous, click, blinker, Wer
Successfully installed Jinja2-3.1.4 MarkupSafe-3.0.1 Werkzeug-3.0.4 blinker-
(env) metens@course-vm1:~/cs430-src/01_mvc_p$ python app.py
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deploym
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://10.138.0.3:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 811-375-316
127.0.0.1 - - [16/Oct/2024 02:46:52] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [16/Oct/2024 02:46:52] "GET /static/style.css HTTP/1.1" 200 -
127.0.0.1 - - [16/Oct/2024 02:46:52] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [16/Oct/2024 02:47:38] "POST /sign HTTP/1.1" 302 -
127.0.0.1 - - [16/Oct/2024 02:47:38] "GET /index.html HTTP/1.1" 200 -
127.0.0.1 - - [16/Oct/2024 02:47:38] "GET /static/style.css HTTP/1.1" 304 -
```

My Visitors

localhost:5000/index.html

Guestbook

Name:

Email:

Message:

Sign

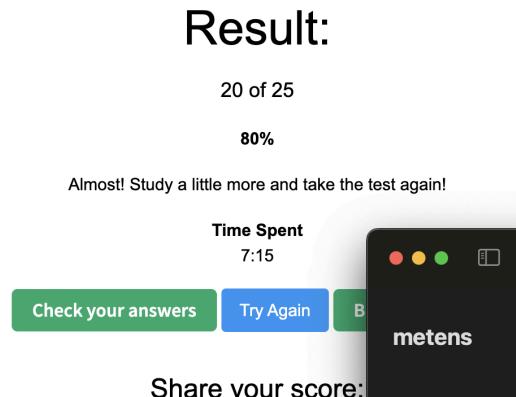
Entries

Nathan Metens <metens@pdx.edu>
signed on 2024-10-16
python/flask guestbook

3.2:ag SQL

2. SQL quiz

SQL Quiz



SQL Quiz Results

Score: 20 of 25

80% Correct:

Question 1:

What does SQL stand for?

✓ Structured Query Language

Structured Question Language

Strong Question Language

Question 2:

Which SQL statement is used to extract data from a database?

✓ SELECT

3. GCP Cloud SQL

The table names are: **Accommodation**, **Rating**, and **Recommendation**.

The primary key for the **Accommodation** table is ID. For the **Rating** table, the primary keys are (accId, userId). And for the **Recommendation** table, the primary key is (userId, accId).

The Accommodation table has columns: id, title, location, price, rooms, rating, and type.

```
1 CREATE DATABASE IF NOT EXISTS recommendation_spark;
2
3 USE recommendation_spark;
4
5 DROP TABLE IF EXISTS Recommendation;
6 DROP TABLE IF EXISTS Rating;
7 DROP TABLE IF EXISTS Accommodation;
8 CREATE TABLE IF NOT EXISTS Accommodation
9 (
10   id varchar(255),
11   title varchar(255),
12   location varchar(255),
13   price int,
14   rooms int,
15   rating float,
16   type varchar(255),
17   PRIMARY KEY (ID)
18 );
19
20 CREATE TABLE IF NOT EXISTS Rating
21 (
22   userId varchar(255),
23   accId varchar(255),
24   rating int,
25   PRIMARY KEY(accId, userId),
26   FOREIGN KEY (accId)
27     REFERENCES Accommodation(id)
28 );
29
30 CREATE TABLE IF NOT EXISTS Recommendation
31 (
32   userId varchar(255),
33   accId varchar(255),
34   prediction float,
35   PRIMARY KEY(userId, accId),
36   FOREIGN KEY (accId)
37     REFERENCES Accommodation(id)
38 );
39
40
```

```

ssh.cloud.google.com/v2/ssh/projects/cloud-metens/zones/us-west1-a/instances/course-vm1?authuser=0&hl=en...
ssh.cloud.google.com/v2/ssh/projects/cloud-metens/zones/us-west1-a/instances/course-vm1?authuser=0...
SSH-in-browser UPLOAD FILE DOWNLOAD FILE ☰ 📌 🔍 ⚙️
metens@course-vm1:~/training-data-analyst/CPB100/lab3a/cloudsql$ cat accommodation.csv | grep 'Dublin'
'
6,Pleasant Quiet Place,Dublin,35,5,4.3,house
77,Great Private Country House,Dublin,1150,10,2.4,mansion
metens@course-vm1:~/training-data-analyst/CPB100/lab3a/cloudsql$ 

```

For Dublin:

id=6, title='Pleasant Quiet Place', location=Dublin, price=35, rooms=5, rating=4.3, type=house
 id=77, title='Great Private Country House', location=Dublin, price=1150, rooms=10, rating=2.4, type=mansion

7. Cloud SQL from Cloud Shell

```

MySQL [recommendation_spark]> select * from Accommodation where price between 50 and
100 and type='house'
-> ;
+----+-----+-----+-----+-----+-----+
| id | title | location | price | rooms | rating | type |
+----+-----+-----+-----+-----+-----+
| 12 | Beautiful Peaceful Villa | Seattle | 90 | 2 | 2.1 | house |
| 22 | Pleasant Peaceful House | Auckland | 50 | 5 | 3.5 | house |
| 3 | Agreeable Calm Place | London | 65 | 4 | 4.8 | house |
| 38 | Big Private House | San Francisco | 70 | 4 | 2.9 | house |
| 39 | Beautiful Calm Villa | Vancouver | 50 | 3 | 3.5 | house |
| 49 | Big Private Villa | NYC | 90 | 2 | 4.8 | house |
| 59 | Large Peaceful Place | Tokyo | 55 | 5 | 1.2 | house |
| 61 | Large Calm Place | NYC | 60 | 2 | 1.3 | house |
| 66 | Beautiful Private Villa | London | 80 | 2 | 2.4 | house |
| 72 | Beautiful Calm Place | Paris | 80 | 4 | 2.1 | house |
| 75 | Large Private Place | Berlin | 50 | 4 | 3.6 | house |
| 86 | Large Quiet House | London | 100 | 4 | 4 | house |
| 99 | Pleasant Quiet Place | NYC | 80 | 4 | 3.2 | house |
+----+-----+-----+-----+-----+-----+
13 rows in set (0.002 sec)

MySQL [recommendation_spark]> 

```

15. RDS Test instance

```
        }
    }

eee_W_3679152@runweb140458:~$ ls
eee_W_3679152@runweb140458:~$
eee_W_3679152@runweb140458:~$ mysql -h aws-rds-lab.ctulg14yuuhx.us-east-1.rds.amazonaws.com -P
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 27
Server version: 8.0.35 Source distribution

Copyright (c) 2000, 2021, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

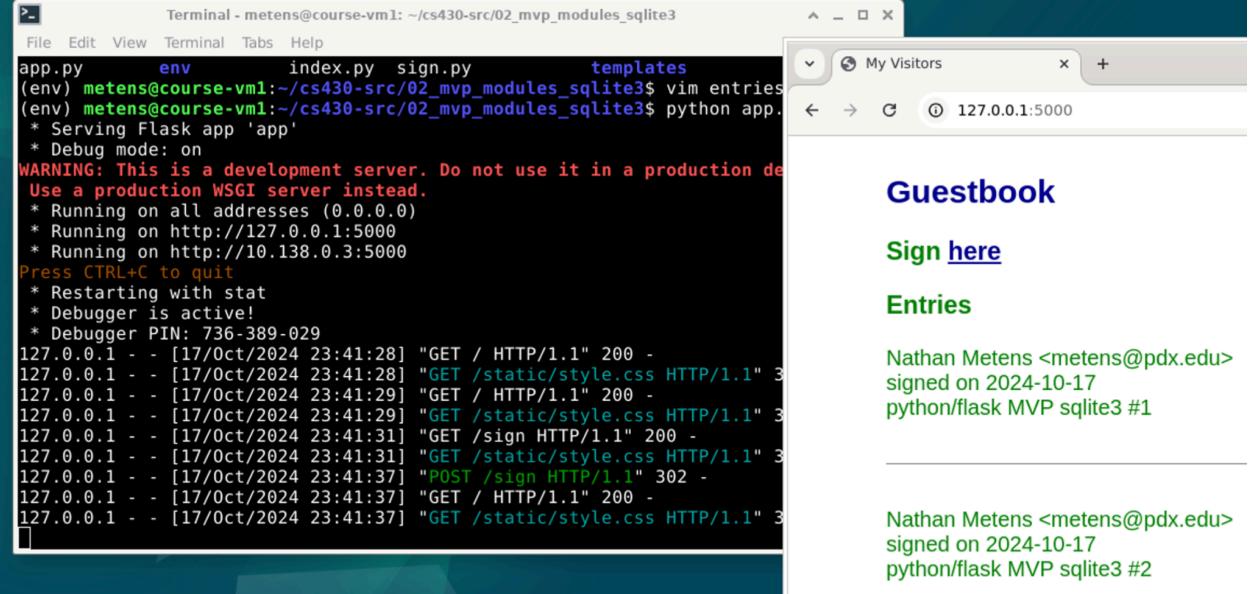
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```



3.3: sqlite3 Guestbook

4. Running the code



The screenshot shows a terminal window and a web browser side-by-side.

Terminal: The terminal window title is "Terminal - metens@course-vm1: ~/cs430-src/02_mvp_modules_sqlite3". It displays the output of running a Python Flask application. The application is serving from port 5000 on 127.0.0.1. It shows log entries for static file requests and a POST request for "/sign".

```
File Edit View Terminal Tabs Help
app.py      env      index.py  sign.py      templates
(env) metens@course-vm1:~/cs430-src/02_mvp_modules_sqlite3$ vim entries
(env) metens@course-vm1:~/cs430-src/02_mvp_modules_sqlite3$ python app.py
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production de
Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://10.138.0.3:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 736-389-029
127.0.0.1 - - [17/Oct/2024 23:41:28] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [17/Oct/2024 23:41:28] "GET /static/style.css HTTP/1.1" 3
127.0.0.1 - - [17/Oct/2024 23:41:29] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [17/Oct/2024 23:41:29] "GET /static/style.css HTTP/1.1" 3
127.0.0.1 - - [17/Oct/2024 23:41:31] "GET /sign HTTP/1.1" 200 -
127.0.0.1 - - [17/Oct/2024 23:41:31] "GET /static/style.css HTTP/1.1" 3
127.0.0.1 - - [17/Oct/2024 23:41:37] "POST /sign HTTP/1.1" 302 -
127.0.0.1 - - [17/Oct/2024 23:41:37] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [17/Oct/2024 23:41:37] "GET /static/style.css HTTP/1.1" 3
```

Web Browser: The browser window title is "My Visitors". The URL is "127.0.0.1:5000". The page content includes a "Guestbook" heading, a "Sign here" button, and a list of entries. The first entry is by "Nathan Metens <metens@pdx.edu>" on 2024-10-17, with the ID "#1". The second entry is also by "Nathan Metens <metens@pdx.edu>" on 2024-10-17, with the ID "#2".

Guestbook

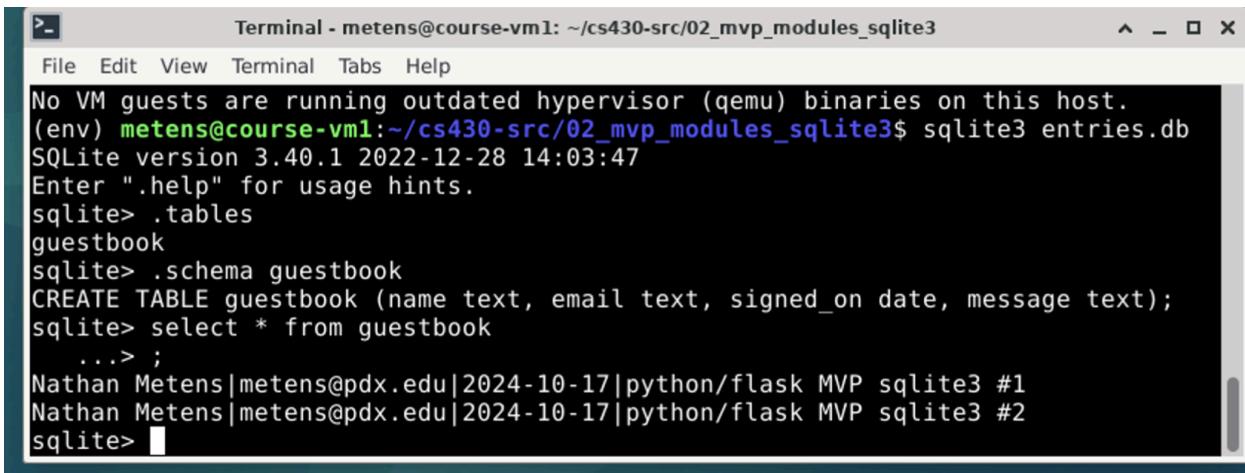
[Sign here](#)

Entries

Nathan Metens <metens@pdx.edu>
signed on 2024-10-17
python/flask MVP sqlite3 #1

Nathan Metens <metens@pdx.edu>
signed on 2024-10-17
python/flask MVP sqlite3 #2

5. Sqlite3 database



The screenshot shows a terminal window titled "Terminal - metens@course-vm1: ~/cs430-src/02_mvp_modules_sqlite3". The window has a standard OS X-style title bar with icons for close, minimize, and maximize. The main area of the terminal displays the following command-line session:

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
(env) metens@course-vm1:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db  
SQLite version 3.40.1 2022-12-28 14:03:47  
Enter ".help" for usage hints.  
sqlite> .tables  
guestbook  
sqlite> .schema guestbook  
CREATE TABLE guestbook (name text, email text, signed_on date, message text);  
sqlite> select * from guestbook  
...>;  
Nathan Metens|metens@pdx.edu|2024-10-17|python/flask MVP sqlite3 #1  
Nathan Metens|metens@pdx.edu|2024-10-17|python/flask MVP sqlite3 #2  
sqlite> █
```

The terminal shows the creation of a table named "guestbook" and two entries being inserted into it.