

Lab Notebook 3
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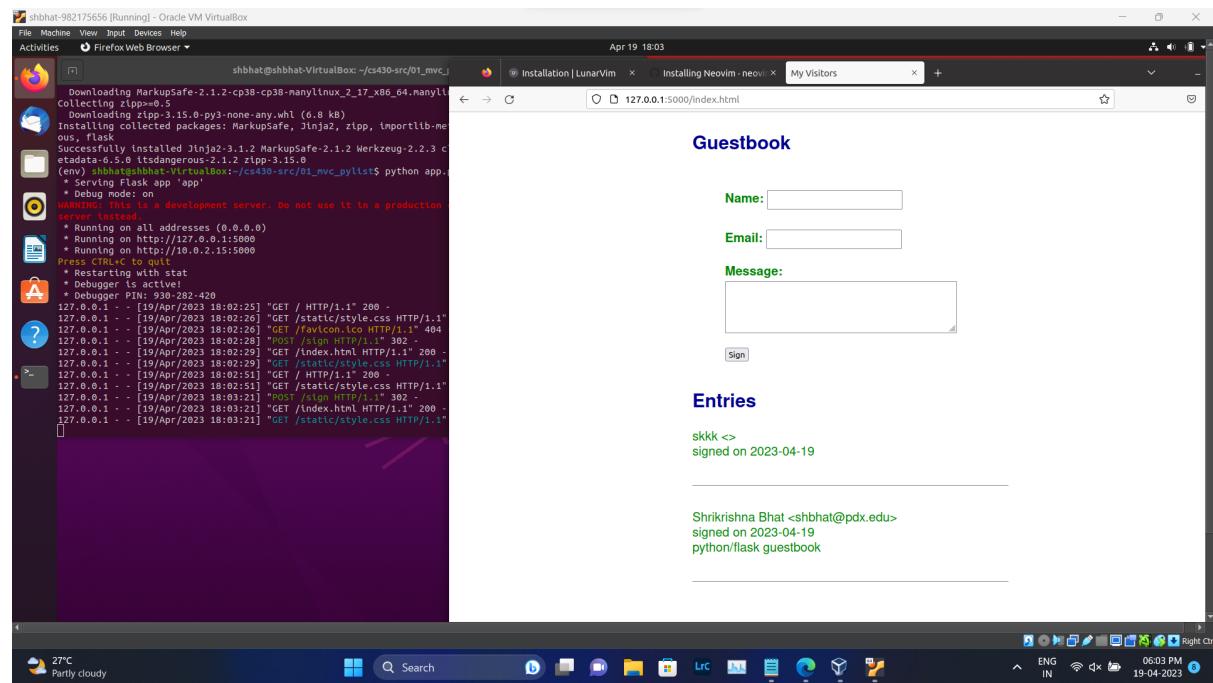
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Section 1

Python Flask #1

1.1 Running the program

1.1.1 Add an entry that includes your PSU e-mail address in it and the message "python/flask guestbook". Take a screenshot of the resulting page for your lab notebook.

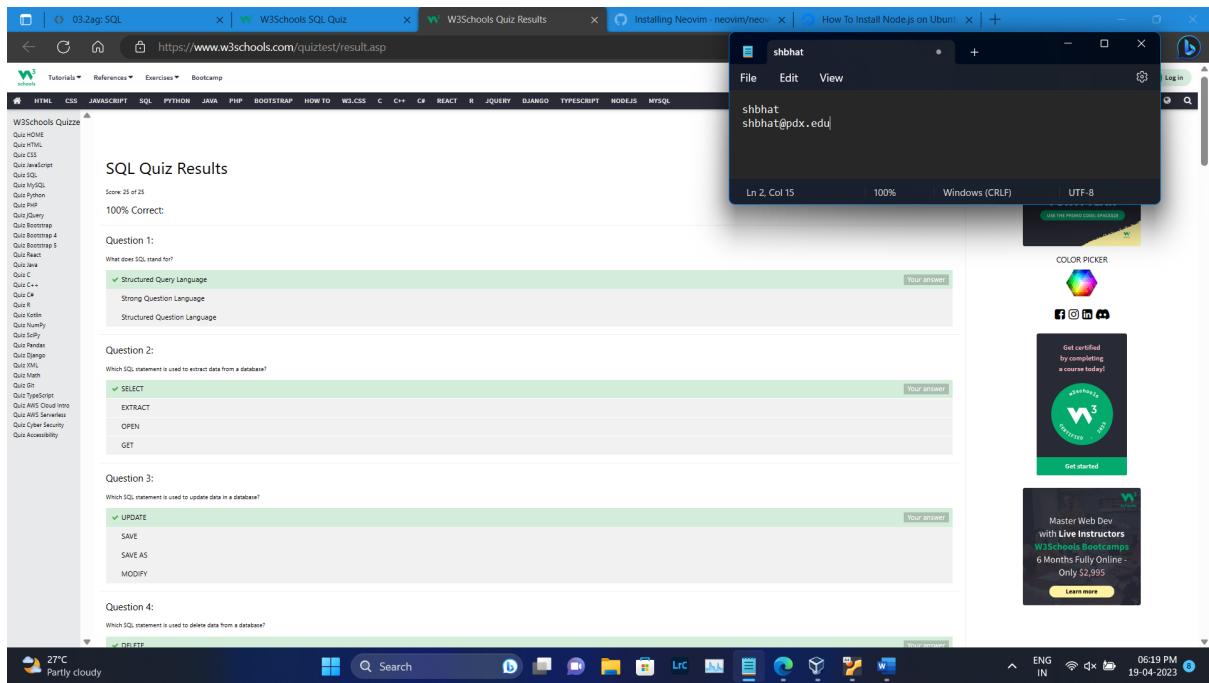


Section 2

SQL #2

2.1 SQL Quiz

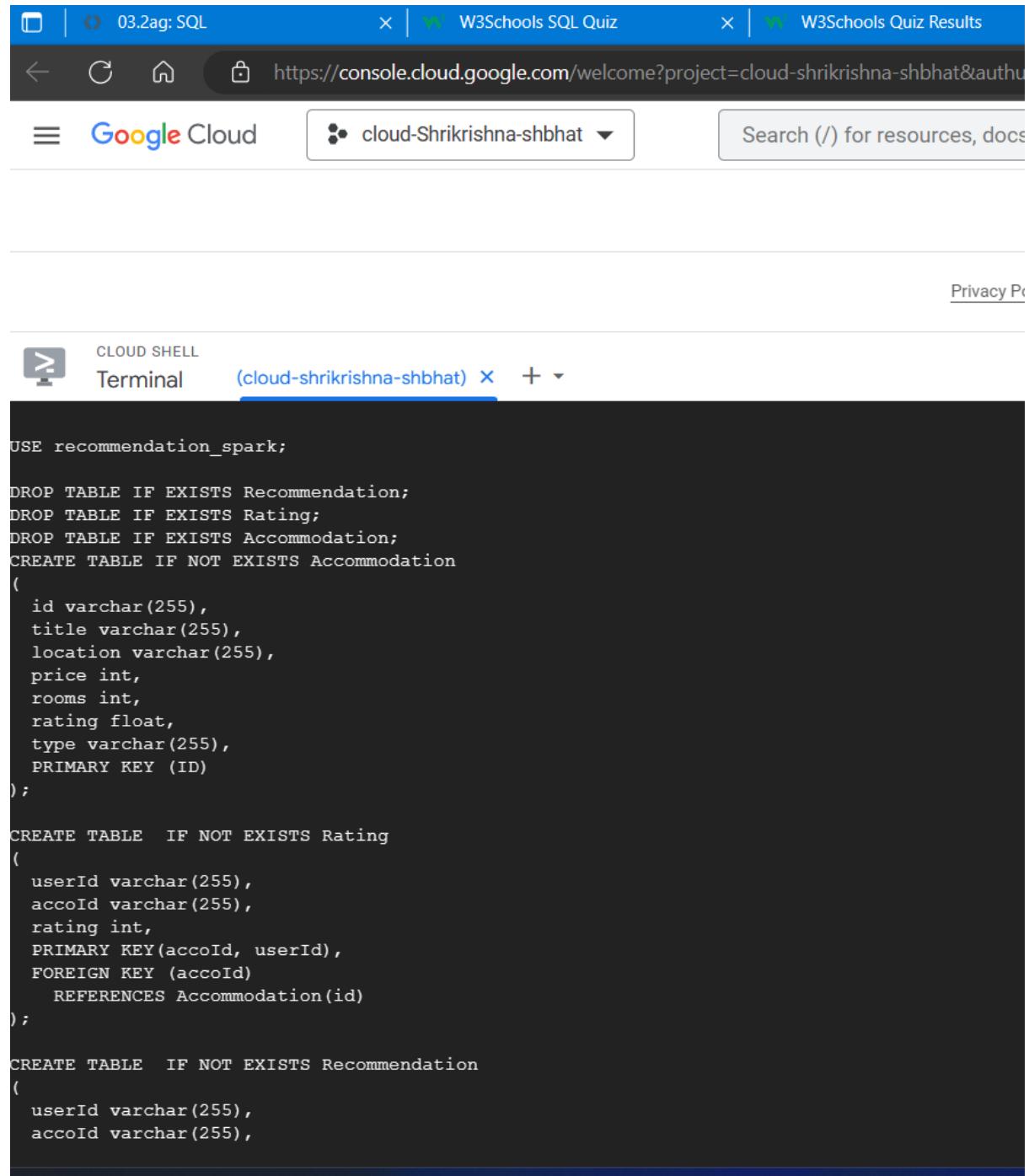
Take the quiz and include a screenshot with your OdinID on it of the "Check your answers" page at the end of the quiz.



2.2 GCP Cloud SQL

2.2.1 What are the names of the tables that are created?

Recommendation, rating, accommodation.



The screenshot shows the Google Cloud Platform Cloud Shell interface. The terminal tab is active, displaying the following SQL script:

```
USE recommendation_spark;

DROP TABLE IF EXISTS Recommendation;
DROP TABLE IF EXISTS Rating;
DROP TABLE IF EXISTS Accommodation;
CREATE TABLE IF NOT EXISTS Accommodation
(
    id varchar(255),
    title varchar(255),
    location varchar(255),
    price int,
    rooms int,
    rating float,
    type varchar(255),
    PRIMARY KEY (ID)
);

CREATE TABLE IF NOT EXISTS Rating
(
    userId varchar(255),
    accoId varchar(255),
    rating int,
    PRIMARY KEY(accoId, userId),
    FOREIGN KEY (accoId)
        REFERENCES Accommodation(id)
);

CREATE TABLE IF NOT EXISTS Recommendation
(
    userId varchar(255),
    accoId varchar(255),
```

2.2.2 What are the primary keys of each table?

PRIMARY KEY (ID) - Table Accommodation

PRIMARY KEY(accId, userId) – Table Rating

PRIMARY KEY(userId, accId) – Table Recommendation

2.2.3 What data (e.g. columns) does the Accommodation table hold?

id varchar(255),

title varchar(255),

location varchar(255),

price int,

rooms int,

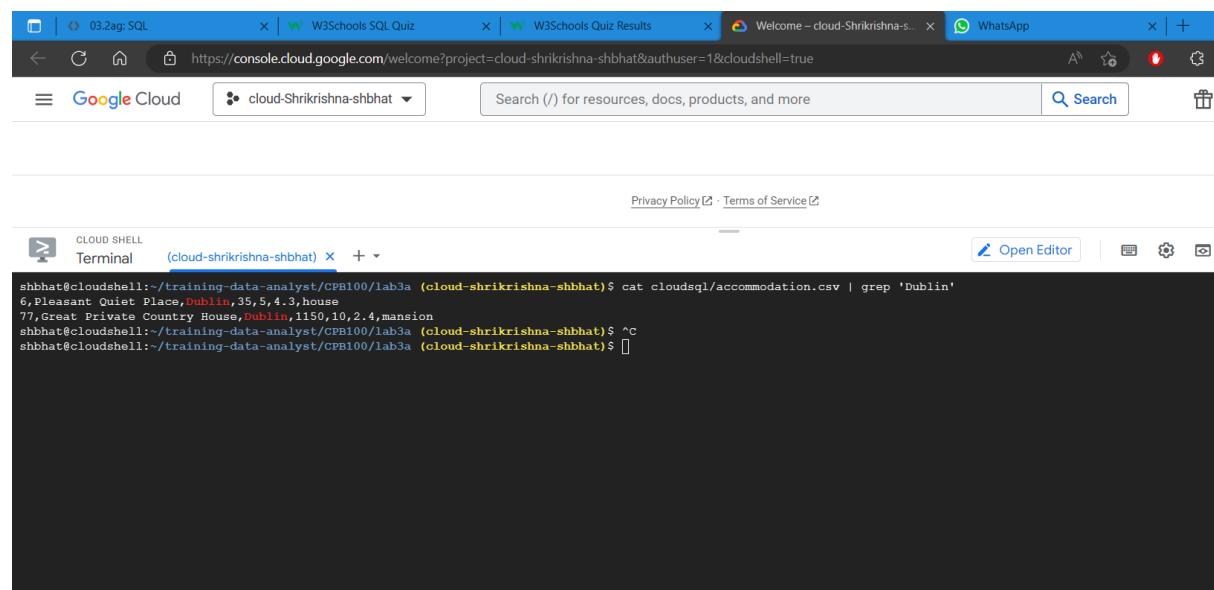
rating float,

type varchar(255)

2.2.4 Find the accommodations in Dublin

6, Pleasant Quiet Place, Dublin, 35, 5, 4.3, house

77, Great Private Country House, Dublin, 1150, 10, 2.4, mansion



The screenshot shows a Google Cloud Shell interface. At the top, there is a browser-like header with tabs for '03.2ag: SQL', 'W3Schools SQL Quiz', 'W3Schools Quiz Results', 'Welcome - cloud-Shrikrishna-s...', 'WhatsApp', and a '+' button. Below the header, the URL is https://console.cloud.google.com/welcome?project=cloud-shrikrishna-shbhat&authuser=1&cloudshell=true. The main area is a terminal window titled 'CLOUD SHELL' with a 'Terminal' tab. The terminal output shows the following command and its results:

```
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ cat cloudsqli/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
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ ^C
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$
```

2.2.5 Assuming the column data is ordered as in the DDL, list the attributes and their values for each accommodation in Dublin.

For first

id – 6

title – Pleasant Quite Place

location - Dublin

price 35

rooms 5

rating 4.3

type House

For second

id – 77

title – Great Private Country House

location - Dublin

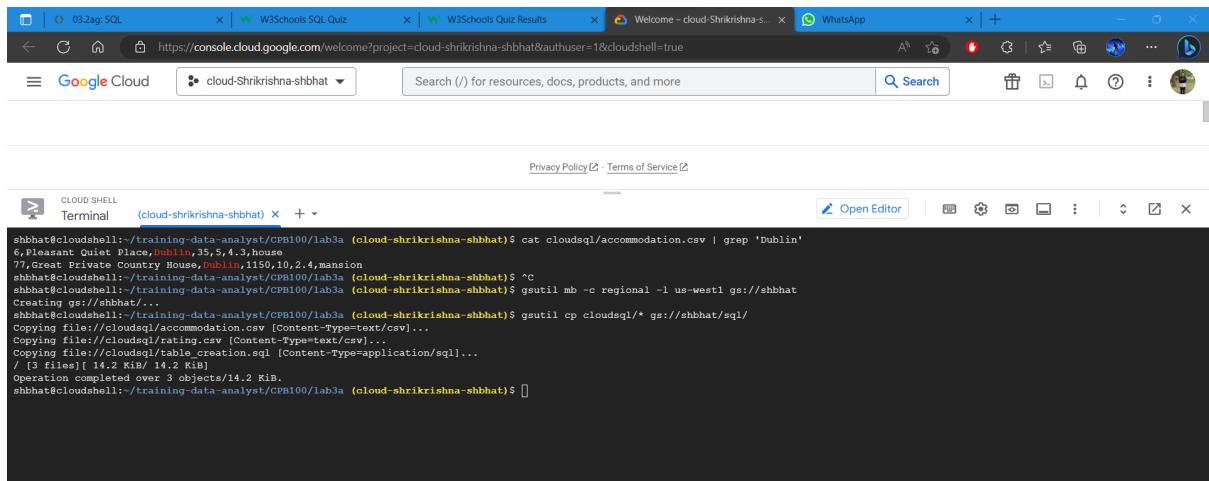
price 1150

rooms 10

rating 2.4

type Mansion

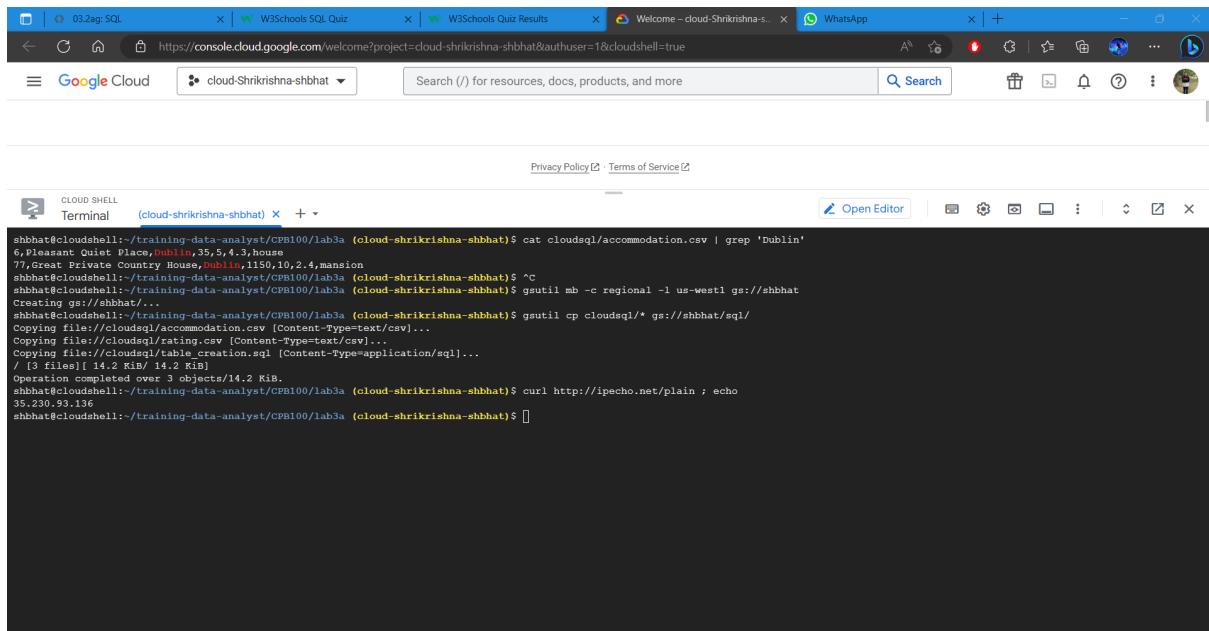
2.2.6 Creating Bucket and Pushing files



```
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ cat cloudsqli/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
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ ^C
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ gsutil mb -c regional -l us-west1 gs://shbhat
Creating gs://shbhat/...
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ gsutil cp cloudsqli/* gs://shbhat/sql/
Copying file://cloudsql/accommodation.csv [Content-Type=text/csv]...
Copying file://cloudsql/rating.csv [Content-Type=text/csv]...
Copying file://cloudsql/table_creation.sql [Content-Type=application/sql]...
/[3 files][ 14.2 KiB/ 14.2 KiB]
Operation completed over 3 objects/14.2 KiB.
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ 
```

2.2.7 run the following command and record your session's IP address.

```
curl http://ipecho.net/plain ; echo
```



```
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ cat cloudsqli/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
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ ^C
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ gsutil mb -c regional -l us-west1 gs://shbhat
Creating gs://shbhat/...
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ gsutil cp cloudsqli/* gs://shbhat/sql/
Copying file://cloudsql/accommodation.csv [Content-Type=text/csv]...
Copying file://cloudsql/rating.csv [Content-Type=text/csv]...
Copying file://cloudsql/table_creation.sql [Content-Type=application/sql]...
/[3 files][ 14.2 KiB/ 14.2 KiB]
Operation completed over 3 objects/14.2 KiB.
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ curl http://ipecho.net/plain ; echo
35.230.99.136
shbhat@cloudshell:~/training-data-analyst/CPB100/lab3a (cloud-shrikrishna-shbhat)$ 
```

2.2.8 Public IP of Mysql

The screenshot shows the Google Cloud SQL Overview page for a primary instance named 'shbhat'. The instance has a Public IP address of 34.127.125.216. The configuration details include 4 vCPUs, 26 GB Memory, and 100 GB SSD storage. The database version is MySQL 8.0.26. The instance is located in us-west1-b and is highly available (regional). A terminal window is open, showing the MySQL command-line interface (CLI) connected to the instance.

2.2.9 Mysql

The screenshot shows a Cloud Shell terminal window with the title 'Cloud Shell IP CIDR'. The terminal is connected to the MySQL instance 'shbhat' at IP 34.127.125.216. The MySQL CLI is running, and the user is connected as root. The terminal displays the MySQL monitor prompt, showing the MySQL version (8.0.26-google), copyright information, and various MySQL commands being entered and executed.

2.2.10 Run queries for accommodations at two price ranges of your choice and two types of your choice. Take screenshots of the output of each query for your lab notebook.

```

mysql> select * from Accommodation where price between 1500 and 2000 and type='mansion';
Empty set (0.01 sec)

mysql> select * from Accommodation where price between 500 and 2000 and type='mansion';
+----+-----+-----+-----+-----+
| id | title           | location      | price | rooms | rating | type |
+----+-----+-----+-----+-----+
| 10 | Sizable Calm Country House | Auckland     | 650   | 9     | 4.9   | mansion |
| 17 | Large Calm Sately House | NYC          | 850   | 8     | 4.0   | mansion |
| 20 | Immense Peaceful Hall   | Buenos Aires | 600   | 10    | 4.2   | mansion |
| 29 | Big Quiet Manor        | San Francisco | 650   | 12    | 4.3   | mansion |
| 32 | Immense Private Hall   | Seattle       | 850   | 12    | 1     | mansion |
| 41 | Big Calm Manor         | Seattle       | 800   | 11    | 2.7   | mansion |
| 42 | Large Calm Residence   | London        | 900   | 12    | 2.4   | mansion |
| 47 | Sizable Calm Sately House | Seattle       | 900   | 10    | 1.5   | mansion |
| 56 | Sizable Private Residence | London        | 800   | 11    | 3.5   | mansion |
| 57 | Immense Quiet Residence | Auckland     | 800   | 11    | 3.5   | mansion |
| 70 | Great Calm Sately House | Paris          | 1050  | 10    | 2.2   | mansion |
| 77 | Great Private Country House | Dublin        | 1150  | 10    | 2.4   | mansion |
| 78 | Large Private Manor     | Vancouver     | 1050  | 10    | 4.8   | mansion |
| 84 | Great Peaceful Sately House | Melbourne    | 700   | 8     | 3.2   | mansion |
| 87 | Immense Peaceful Hall   | San Francisco | 850   | 12    | 4.4   | mansion |
| 91 | Large Peaceful Hall     | Melbourne     | 650   | 10    | 1.9   | mansion |
| 95 | Great Calm Hall         | San Francisco | 800   | 11    | 3.8   | mansion |
| 96 | Immense Private Country House | Tokyo        | 800   | 9     | 3.8   | mansion |
+----+-----+-----+-----+-----+
18 rows in set (0.00 sec)

mysql> 
```

```

mysql> select * from Accommodation where price between 1000 and 2000 and type='castle';
Empty set (0.01 sec)

mysql> select * from Accommodation where price between 1500 and 2000 and type='castle';
+----+-----+-----+-----+-----+
| id | title           | location      | price | rooms | rating | type |
+----+-----+-----+-----+-----+
| 14 | Colossal Peaceful Palace | Melbourne    | 1200  | 21    | 1.5   | castle |
| 15 | Vast Private Fort   | London        | 1300  | 18    | 2.6   | castle |
| 26 | Enormous Peaceful Palace | Paris          | 1300  | 18    | 1.1   | castle |
| 27 | Enormous Calm Castle | Berlin        | 1500  | 12    | 2.3   | castle |
| 31 | Colossal Private Castle | Buenos Aires | 1400  | 15    | 3.3   | castle |
| 37 | Enormous Quiet Chateau | Berlin        | 2000  | 20    | 2.7   | castle |
| 45 | Vast Quiet Chateau   | Tokyo          | 1100  | 19    | 2.3   | castle |
| 46 | Colossal Private Castle | San Francisco | 1900  | 15    | 3.7   | castle |
| 52 | Giant Private Palace | Melbourne    | 1800  | 23    | 2.7   | castle |
| 60 | Vast Peaceful Palace | Seoul          | 1600  | 19    | 1.1   | castle |
| 68 | Giant Peaceful Fort  | Paris          | 1800  | 21    | 1.1   | castle |
| 9 | Giant Peaceful Palace | London        | 1500  | 20    | 3.5   | castle |
| 93 | Giant Quiet Chateau | Vancouver     | 1800  | 16    | 3.9   | castle |
| 98 | Big Private Castle   | Paris          | 2000  | 23    | 4.6   | castle |
+----+-----+-----+-----+-----+
14 rows in set (0.00 sec)

mysql> 
```

2.3 AWS RDS

2.3.1. Created Security group

The screenshot shows the AWS VPC Management Console with the 'VPC' service selected. A search bar at the top right contains 'vpc'. The main area displays the 'Details' tab for a security group named 'aws-rds-lab'. The security group ID is 'sg-06eb078890042489c'. The description is 'Allow MySQL from Cloud Shell'. The VPC ID is 'vpc-0eb3105a36c958af'. Under the 'Inbound rules' tab, there is one rule listed: 'sgr-0a5dc0f2441108958' (Security group rule ID), 'IPv4' (IP version), 'MySQL/Aurora' (Type), 'TCP' (Protocol), and port '3306' (Port range). A message at the bottom says 'You can now check network connectivity with Reachability Analyzer' with a 'Run Reachability Analyzer' button.

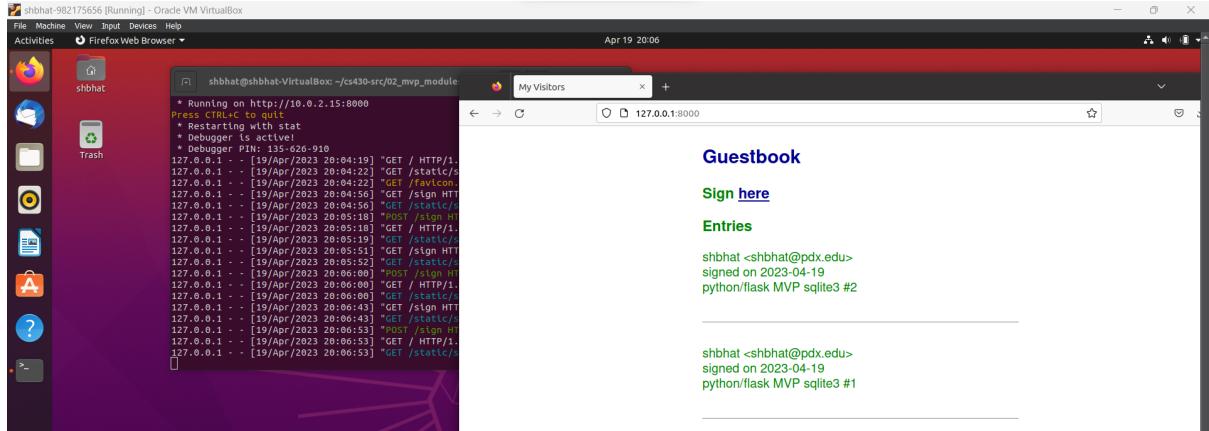
2.3.2 Show a screenshot of the successful connection similar to below that includes your OdinID

The screenshot shows the AWS CloudShell interface. At the top, it displays the URL 'https://us-east-1.console.aws.amazon.com/ds/home?region=us-east-1#databaseId=aws-rds-lab;is-cluster=false'. The CloudShell window shows the command line: 'curl http://ipecho.net/plain ; echo'. The output of this command is '18.206.188.226'. Then, the user runs 'mysql -h aws-rds-lab.cynmmsrt6dhc.us-east-1.rds.amazonaws.com -P 3306 -u admin -p'. They enter their password 'shbhat'. The MySQL prompt appears: 'MariaDB [aws-rds-lab] >'. The user then runs 'status' to see the connection details: 'Your MySQL connection id is 15. Server version: 8.0.32. Source distribution'. The CloudShell interface also shows a 'Database Details - RDS' tab with information about the RDS instance, including the endpoint 'aws-rds-lab.cynmmsrt6dhc.us-east-1.rds.amazonaws.com', port '3306', VPC 'vpc-0eb3105a36c958af', and subnet group 'default-vpc-0eb3105a36c958af'. The status bar at the bottom indicates the session is running on 'Windows (CRLF)' with 'UTF-8' encoding.

Section 3

3.1 SQLite Guestbook

3.1.1 Take a screenshot of the resulting page for your lab notebook



3.1.2 Then, within the sqlite client, perform the following commands and take a screenshot of their output to include in your lab notebook.

```
The following packages were automatically installed and are no longer required:
liblbluejat-5.1-2 liblbluejat-5.1-common libmsgpackc2 libtermkey1 libunibilium4
libvterm0 lua-luv neovim-runtime python3-greenlet python3-msgpack
python3-neovim python3-pynvim xclip
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  sqlite3-doc
The following NEW packages will be installed:
  libsqlite3-dev sqlite3
0 upgraded, 2 newly installed, 0 to remove and 23 not upgraded.
Need to get 1,557 kB of archives.
After this operation, 5,174 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 libsqlite3-dev amd64 3.31.1-4ubuntu0.5 [697 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 sqlite3 amd64 3.31.1-4ubuntu0.5 [860 kB]
Fetched 1,557 kB in 3s (489 kB/s)
Selecting previously unselected package libsqlite3-dev:amd64.
(Reading database ... 208851 files and directories currently installed.)
Preparing to unpack .../libsqlite3-dev_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Selecting previously unselected package sqlite3.
Preparing to unpack .../sqlite3_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking sqlite3 (3.31.1-4ubuntu0.5) ...
Setting up libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Setting up sqlite3 (3.31.1-4ubuntu0.5) ...
Processing triggers for man-db (2.9.1-1) ...
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> .tables
...> ^C^Z
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> _tables
sqlite> guestbook
sqlite> 
```

```
shbhat-982175656 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal ▾
shbhat
shbhat@shbhat-VirtualBox: ~/cs430-src/02_mvp_modules_sqlite3
Apr 19 20:11

libvterm0 lua-luv neovim-runtime python3-greenlet python3-msgpack
python3-neovim python3-pynvim xclip
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  sqlite3-doc
The following NEW packages will be installed:
  libsqlite3-dev sqlite3
0 upgraded, 2 newly installed, 0 to remove and 23 not upgraded.
Need to get 1,557 kB of archives.
After this operation, 5,174 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 libsqlite3-dev amd64 3.31.1-4ubuntu0.5 [697 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 sqlite3 amd64 3.31.1-4ubuntu0.5 [860 kB]
Fetched 1,557 kB in 3s (489 kB/s)
Selecting previously unselected package libsqlite3-dev:amd64.
(Reading database ... 208851 files and directories currently installed.)
Preparing to unpack .../libsqlite3-dev_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Selecting previously unselected package sqlite3.
Preparing to unpack .../sqlite3_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking sqlite3 (3.31.1-4ubuntu0.5) ...
Setting up libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Setting up sqlite3 (3.31.1-4ubuntu0.5) ...
Processing triggers for man-db (2.9.1-1) ...
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> .tables
...> ^CZ
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> .tables
guestbook
sqlite> .schema guestbook
CREATE TABLE guestbook (name text, email text, signed_on date, message);
sqlite>
```

```
shbhat-982175656 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal ▾
shbhat
shbhat@shbhat-VirtualBox: ~/cs430-src/02_mvp_modules_sqlite3
Apr 19 20:11

sqlite3-doc
The following NEW packages will be installed:
  libsqlite3-dev sqlite3
0 upgraded, 2 newly installed, 0 to remove and 23 not upgraded.
Need to get 1,557 kB of archives.
After this operation, 5,174 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 libsqlite3-dev amd64 3.31.1-4ubuntu0.5 [697 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal-updates/main amd64 sqlite3 amd64 3.31.1-4ubuntu0.5 [860 kB]
Fetched 1,557 kB in 3s (489 kB/s)
Selecting previously unselected package libsqlite3-dev:amd64.
(Reading database ... 208851 files and directories currently installed.)
Preparing to unpack .../libsqlite3-dev_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Selecting previously unselected package sqlite3.
Preparing to unpack .../sqlite3_3.31.1-4ubuntu0.5_amd64.deb ...
Unpacking sqlite3 (3.31.1-4ubuntu0.5) ...
Setting up libsqlite3-dev:amd64 (3.31.1-4ubuntu0.5) ...
Setting up sqlite3 (3.31.1-4ubuntu0.5) ...
Processing triggers for man-db (2.9.1-1) ...
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> .tables
...> ^CZ
(env) shbhat@shbhat-VirtualBox:~/cs430-src/02_mvp_modules_sqlite3$ sqlite3 entries.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> .tables
guestbook
sqlite> .schema guestbook
CREATE TABLE guestbook (name text, email text, signed_on date, message);
sqlite> select * from guestbook;
shbhat|shbhat@pdx.edu|2023-04-19|python/flask MVP sqlite3 #2
shbhat|shbhat@pdx.edu|2023-04-19|python/flask MVP sqlite3 #1
shbhat|shbhat@pdx.edu|2023-04-19|python/flask MVP sqlite3 #2
sqlite>
```