



# CSC 134-02 Database Management Systems (Spring 2022)

## Yelp Business Search Engine (Mini Project 2)

**Due: Sunday, May 8, 2022, at 11:59 pm**





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Best Japanese Food in Las Vegas, NV


Showing 1-30 of 518


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Ad

Bar Sake & Robata Grill



6 reviews

Japanese, Sushi Bars, Cocktail Bars

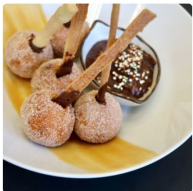
(702) 732-5755

3000 Paradise Rd

Eastside


"A must see! I was not too sure what to expect before arriving and I was instantly blown away! It makes for a great date night or just an evening out with a friend to try something..."

[read more](#)



Ad

Once



98 reviews

Japanese, Peruvian

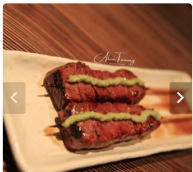
(702) 607-3797

3327 S Las Vegas Blvd


The Strip

"This place is fantastic! The food is very presentable and delicious. I went with my family and some friends and the service was great! Charles was our server and he was very..."

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1. Raku



1441 reviews

Japanese

(702) 367-3511

5030 Spring Mountain Rd

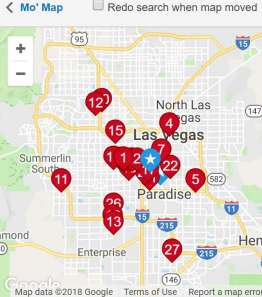
Chinatown

"Well if this isn't the best Japanese food I've had since Japan! Omg -- the izakaya here is so dope, I can't rave enough. Service is attentive, food comes out..."

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Mo' Map

☐ Redo search when map moved



jaburritos.com

**JaBurritos - Sushi Restaurant - Sushi Burritos & Sushi Bowls**

Ad

Voted best of Las Vegas Sushi 2017. Stop In Today.

3545 Las Vegas Blvd South L12

MENU

DIRECTIONS

[Visit Website](#)

mikunisushi.com

**Japanese Cuisine & Sushi**

Ad

Award-winning Sushi Served in a Fun Upbeat, Dining Experience

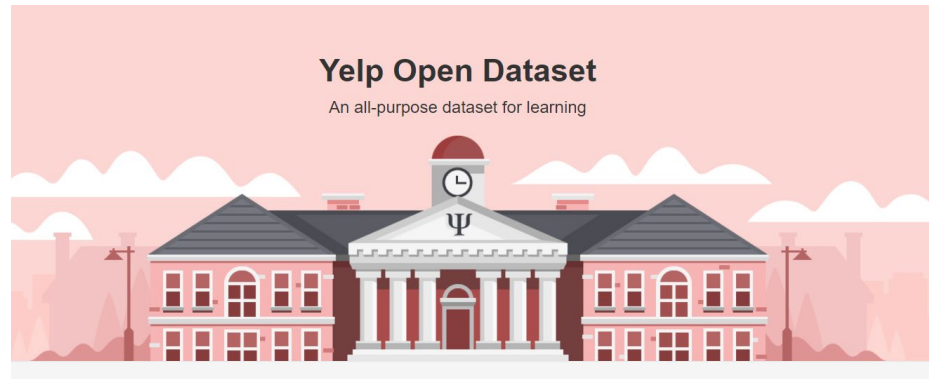
Amazing Cuisine - Attention To Every Detail

Categories: Gift Cards, T-Shirts, Hats, Gifts

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# 1. Project Description

In this project, you design and create a Yelp database using SQL.



The dataset contains several JSON files. You can find the format of the data here: <https://www.yelp.com/dataset/documentation/main>

Do the following:

1. Examine all the JSON format of each file carefully. Understand the meaning of each field.
  - “Tips” are “mini-versions” of reviews. The major difference between tips and reviews on Yelp is that for any given business, **one can write only one tip but multiple reviews on each day.**
  - If you would like to open each data file for better understanding, use glogg: <https://github.com/nickbnf/glogg>
2. Design a **relational database schema** to store such Yelp data, **with all the primary keys and foreign keys specified**. Note that you are NOT allowed to create any column which is not in the original Yelp dataset

Hint: You may simply create one relation for each JSON file so your relational database schema will have six relations in total. In other words, **your database schema does not have to be in the first normal form.**

3. Write CREATE TABLE statements to create tables based on your relational database schema. **Declare all the primary keys and foreign keys. Declare all primary key attributes as NOT NULL to enforce entity integrity constraint.**

## 2. Data Migration to MySQL (optional; for fun only)

1. Download the Yelp datasets here: <https://www.yelp.com/dataset>

2. Convert the data from JSON to CSV.

- You may use the functions `read_json` and `to_csv`, provided in Pandas.

For example:

```
business = pd.read_json('yelp_academic_dataset_business.json',  
lines=True, chunksize = 1000000)
```

- A low-level implementation can also be found here: <https://github.com/Yelp/dataset-examples>
- Use `LOAD DATA LOCAL INFILE` to upload each CSV file to your database. I encourage you to insert Yelp data to “user” and “business” tables (which took about 10 minutes on my laptop for these two tables). Since other tables are extremely large, data insertion into those tables will be very computationally expensive.

3. Have fun with the data! Try some queries on “user” and “business” tables to see the results.

### 3. Materials to Hand In

A doc/pdf file that includes the following:

1. Your relational database schema for the provided Yelp data, with all the primary keys and foreign keys specified. (50 pts)
2. Your CREATE TABLE statements used to create the five tables, based on your relational database schema. **Declare all the primary keys and foreign keys. Declare primary key attributes as NOT NULL to enforce entity integrity constraint.** (50 pts)

The file should be submitted **individually** on Canvas before

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**NO late submissions will be accepted.**

### Appendix:

To work on data migration (again, this part is optional and for your fun only), you have to remove security restriction on LOAD DATA LOCAL INFILE on your machine. These are the steps you should follow:

1. Launch the MySQL command line terminal in start menu:
2. Type this command:

`SET GLOBAL local_infile = true;`

```

MySQL 5.6 Command Line Client
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.6.37-log MySQL Community Server (GPL)

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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> SET GLOBAL local_infile = true;
Query OK, 0 rows affected (0.00 sec)

mysql>

```

3. Double check the result using:

`SHOW GLOBAL VARIABLES LIKE 'local_infile';`

```

mysql> SET GLOBAL local_infile = true;
Query OK, 0 rows affected (0.00 sec)

mysql> SHOW GLOBAL VARIABLES LIKE 'local_infile';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| local_infile  | ON    |
+-----+-----+
1 row in set (0.00 sec)

mysql>

```

“local\_infile” should be ON.

4. Now you are good to run LOAD DATA LOCAL INFILE.