

Project One: Getting Started With Database Design

You may work on these problem sets together (citing your collaborators), but the write up must be your own. Assignments must be submitted digitally by the beginning of class; late assignments will receive a grade of zero (0).

Your problem set must be updated to Canvas. You may update as many files as you wish to Canvas for the assignment. As I have a MAC, please do not submit Microsoft Word files. Export your file to a PDF.

*Design a database schema that keeps track of what you need to pack to go on **vacation** with your **family** to your **favorite spooky destination**. Consider data like:*

- *Where does each member of the family want to go?*
- *What activities could be done?*
- *What costumes do you need to pack?*

The goal here is to design a small database, and think about how to organize data. There is no right answer here, and as the course progresses, we will be talking about how to design efficient and well performing databases. For now, we are experimenting. Feel free to consider the above prompts, or come up with your own spooky destination database.

1. (50 Points) For your database design, you must:
 - (15 Points) List out the schema definition for at least **three** relations.
 - (5 Points) Select appropriate types for each column, and include them in your **schema definitions**.
 - (10 Points) List all the **super keys**, the **candidate keys** and the most reasonable **primary key** of each relation. Please ensure you justify your primary key choice.
2. (50 Points) Use the database schema that you designed in the first question for the following problems:
 - a. (10 Points) Write a **create database statement** for the database schema you designed, using best practices discussed in class.
 - b. (30 Points) Write a **create table statement** for **each** of the relations you designed. You must:
 - Include the primary keys
 - Ensure that your foreign key constraints are satisfied
 - Consider whether attributes should be nullable
 - c. (20 Points) Create a database schema diagram.

- Use the Reverse Engineer tool in MySQLWorkBench
 - Ensure you include your foreign key relationships. You may need to configure MySQLWorkBench: **Model -> Relationship Notation -> Connect to Columns**
 - Please export the result as a pdf
- d. (10 Points) Insert at least one tuple into **each** of your tables, using the insert statement.