

## Project 2

Fall 2015

RDB Design, Implementation, and Queries      Due: Monday 11/9/15      100 points

In this project, derive a relational schema from the given ER diagram, implement the schema, populate it, and query over it.

Work with your assigned partner unless you apply for permission to work solo. You should justify your request in writing (email). If approved, you will be granted written permission (email) by me no later than 10/28/15.

### *Requirements:*

1. Implement your relations using MySQL 5.6. MySQL Workbench 6.3 is recommended.
2. Populate the relations used in the queries according to the following criteria:
  - a. every relation should have at least 5 tuples (some of which do not contribute to the query answer).
  - b. the queries should return answers containing at least 5 distinct tuples.
  - c. the data should look realistic; do not use random keyboard text or obvious placeholder data.
  - d. you may need to add attributes in order to answer some queries.
  - e. you may not have to populate all the relations, just the ones used in the queries.
3. Give the SQL queries and resulting answers for the following queries. Do not use null values or any values not explicitly given in the data request. If you use intermediate queries, show the intermediate queries and results as well as the final query and final result.

### *Queries:*

1. List the last name, mNumber, category (G or U), department number, and year in department for all students who are waiting to be assigned to a residence hall.
2. List all staff (last name and university number) who are not currently managing a residence hall but whose job title is hall manager.
3. List last names, mNumbers, and department numbers of graduate students (category G) who lived in a suite with 5 bedrooms in their 5<sup>th</sup> year in a department.
4. For students who have been in a residence hall for their first 4 years with the same department (e.g., for years 1, 2, 3, and 4), give the department number, total number of students and the total amount of rent paid.
5. List students with the same first name as staff with offices in their current residence hall (Fall 2015).

*Submit on Blackboard (one pdf document):*

1. A list of all the relations obtained via forward engineering with primary and foreign keys indicated (along with the relation to which they refer.)
2. Contents of all your populated relations.
3. SQL query text and the data answering the query.
4. Individual and team time spent on the project in the form of a log including names, time, location, duration, topics of discussion, activities, action items (who is assigned what tasks outside of team meetings, and what the tasks are), and total solo and team time on task.

*Hardcopy:* Submit a hardcopy in class on Tuesday 11/10/15.

*Notes:*

1. Present your work neatly and professionally, but there is no need to use 14pt font or to have only a few lines of text on each page. Please omit cover pages.
2. Pay attention to the information requested for your activity log.

This ERD is based on the requirements for your first project. It is used to answer the queries on page 1. This is the conceptual schema for the RDB implementation schema for Project 2.

