

# DATA 225

## Database Systems for Analytics

Spring 2023  
Section 22  
Instructor: Ron Mak

### Assignment #6

Assigned: Monday, March 6  
Due: Monday, March 13 at 5:30 pm  
Team assignment, 100 points max

### SQL command practice #3

The purpose of this assignment is to give your team more practice using SQL commands on the data that you've already chosen or new data. Create a Python notebook to do the following.

#### 1. INSERT INTO SELECT with CASE

Create and load a database table. Then write one or more **INSERT INTO** command with an embedded **SELECT** to create one or more tables from the first table. Use **CASE** with the **SELECT** to perform data transformation(s). Display the contents of the first table and the newly created table(s).

You may want to use the newly created table(s) for the following exercises.

#### 2. Aggregate functions with GROUP BY

Use one or more aggregate functions with **GROUP BY**. Explain in a sentence or two what the nested query is supposed to do and display the result.

#### 3. Aggregate functions with GROUP BY HAVING

Use one or more aggregate functions with **GROUP BY HAVING**. Explain in a sentence or two what the nested query is supposed to do and display the result.

#### 4. Nested query

Write a **SELECT** query with a nested **SELECT**. Explain in a sentence or two what the nested query is supposed to do and display the result.

#### 5. Left outer join

Perform a left outer join between two tables and display the result.

## 6. Right outer join

Perform a right outer join between two tables and display the result.

## 7. Full outer join

Perform a full outer join between two tables and display the result.

## 8. View

Create a view and display its contents. Use the view in a join with other table(s) and display the result.

## What to submit

Your Python notebook.

## Rubric

Criteria	Max points
1. <code>INSERT INTO SELECT</code> with <code>CASE</code>	1. 20
2. Aggregate functions with <code>GROUP BY</code>	2. 10
3. Aggregate functions with <code>GROUP BY HAVING</code>	3. 10
4. Nested query	4. 10
5. Left outer join	5. 10
6. Right outer join	6. 10
7. Full outer join	7. 10
8. View	8. 20