

# DATA 225

## Database Systems for Analytics

Fall 2023  
Section 21  
Instructor: Ron Mak

### Assignment #7b

Assigned: Monday, October 9  
Due: Monday, October 16 at 5:30 pm  
Individual assignment, 100 points max

### Stored procedures

The purpose of this assignment is to give you practice creating and calling stored procedures. Load the Car Dealership database by importing file `CarDealership.sql` and create database `car_dealership` on your local machine.

### 1. Create stored procedures

Create a Jupyter notebook that uses Python to create the following stored procedures for database `car_dealership`. Before creating each stored procedure, you should delete a stored procedure with the same name if it exists. [15 points each procedure]

#### a. `sales_of_month()`

Given a month number (an integer value 1 through 12, inclusive), generate tabular output containing all the sales of the month. For each sale, include the salesperson's name, the make and model of the car, the customer's name and gender, and the price of the car.

#### b. `sales_counts_of_month()`

Given a month number (an integer value 1 through 12, inclusive), generate tabular output containing each salesperson's name and the number of cars the salesperson sold that month.

#### c. `highest_sales_of_month()`

Given a month number (an integer value 1 through 12, inclusive), return in an OUT parameter the highest sales (number of cars sold) by a salesperson of that month.

#### d. `salespersons_of_the_month()`

Given a month number (an integer value 1 through 12, inclusive), generate tabular output containing the name of the salesperson(s) who sold the highest number of cars that month, and the number of cars each salesperson sold.

## 2. Call stored procedures

In another Jupyter notebook, use Python to make a call to each of your stored procedures. You can either use the SQL `CALL` command or the cursor method `callproc()`. Display the tabular results in a dataframe with proper column headers. [10 points each call]

### What to submit

Your Jupyter notebooks.

### Rubric

Criteria	Max points
<ul style="list-style-type: none"><li>• <b>Stored procedures</b><ul style="list-style-type: none"><li>a. <code>sales_of_month()</code></li><li>b. <code>sales_counts_of_month()</code></li><li>c. <code>highest_sales_of_month()</code></li><li>d. <code>salespersons_of_the_month()</code></li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>60</b><ul style="list-style-type: none"><li>a. 15</li><li>b. 15</li><li>c. 15</li><li>d. 15</li></ul></li></ul>
<ul style="list-style-type: none"><li>• <b>Calls to stored procedures</b><ul style="list-style-type: none"><li>a. <code>sales_of_month()</code></li><li>b. <code>sales_counts_of_month()</code></li><li>c. <code>highest_sales_of_month()</code></li><li>d. <code>salespersons_of_the_month()</code></li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>40</b><ul style="list-style-type: none"><li>a. 10</li><li>b. 10</li><li>c. 10</li><li>d. 10</li></ul></li></ul>