San José State University
Department of Computer Engineering

CS/SE 157B
Section 3
Database Management Systems II
Spring 2018
Instructor: Ron Mak

Assignment #4

Assigned: Tuesday, March 6
Due: Friday, March 23 at 11:59 pm
Team assignment, 100 points max

OLAP operations

The purpose of this assignment is to give your team experience writing SQL queries that perform OLAP operations on your dimensional model's star schema from Assignment #3. (You can modify your star schema to accommodate this assignment.)

For each of the following operations, write and execute SQL queries using your sample data:

- drill up
- drill down
- slice
- dice

For each OLAP operation, show the query, and "before" and "after" query output.

Example: For drill up and drill down, choose one level of aggregation for a fact table, such as quarterly, as your "before" query. Then drill down and show monthly results, and drill up and show yearly results. If the granularity of your fact table is daily, then monthly, quarterly, and yearly results are different levels of aggregation.

What to turn in

Create a zip file named after your team (e.g., **`Supercoders.zip`**) containing:

- A dump of your MySQL/MariaDB implementation of your dimensional model.
- Your star schema as created with ERDPlus.
- SQL queries and text files containing the results. Include a short report that explains what each query is doing.

Submit into Canvas: **Assignment #4. OLAP operations**

Artificial data generators

If you cannot obtain actual datasets to populate your tables, Google “test data generation tools” for tools you can use to generate artificial data for your tables. For example, https://www.mockaroo.com

Rubrics

Criteria	Max points
OLAP operations (SQL queries and text files or screen shots of results) • Drill up and drill down (show three levels of aggregation) • Slice • Dice	**90** • 60 • 15 • 15
Dimensional model • Star schema and database dump	**10** • 10