# Java Bootcamp SQL Exercise

# Employee DB - Instructions

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The Employee DB is a ‘sample’ database example taken from the MySQL online reference which can be found [here](https://dev.mysql.com/doc/employee/en/). It can be utilized within the bootcamp as an example of a database that is more real-life in that it is slightly more complicated than the schemas described in class. It has a few tables with 300,000 to 400,000 records, and one with nearly 3 million.

It is a relatively simple schema, conceptually:

* Employees have titles over time
* Employees are assigned to departments
* Departments are managed by managers
* Employees have salaries which change over time and need to be tracked historically

The detailed setup instructions can be found in the above link on the MySQL site, but with bootcamp students’ experience they should be able to create this DB by following the following instructions:

1. Run the DB create script – employees\_db\_ddl.sql
   1. Note that this script has a few statements at the end that will fail. Those steps reference ‘dump’ files that need to be run to add data. This needs to be done manually (see step 2).
2. Load the data by running the ‘dump’ scripts. These should be provided by your instructor but care should be taken in their execution:
   1. The order is important. They should be numbered so execute accordingly.
   2. The size of the data could cause a script crash due on machines with lower memory. If it causes you issues, close out of unused applications and make sure you don’t try to execute any other SQL statements within Workbench to ensure maximum resources are available when the scripts run.

Once you have the schema created and data loaded you’ll need to run some queries to test your skills! Here are some sample queries to attempt:

|  |  |
| --- | --- |
| **Query** | **Expected Result** |
| What is the average employee salary? | $72,012.24 |
| What’s the maximum salary, who? | Tokuyasu Pesch $158,220.00 |
| What’s the minimum salary, who? | Olivera Baek $38,623.00 |
| What’s the most common title? | Engineer – 115,003 |
| Which dept. has the most employees, how many? | D005 – Development, 61,386 employees |
| Who is the most tenured employee? | Parviz Linnainmaa 1985-02-04 |
| What’s the highest average salaried dept.? | d001 Marketing $80,014.69 |
| Who is the oldest employee? | '1952-02-01', 'Supot', 'Remmele', 'M' |
| Who is the oldest male employee? | '1952-02-01', 'Supot', 'Remmele', 'M' |
| Who is the youngest employee? | '1965-02-01', 'Magdalena', 'Penn', 'F' |
| Who is the youngest female employee? | '1965-02-01', 'Magdalena', 'Penn', 'F' |
| How many employees are in each dept? | '1965-02-01', 'Zhiguo', 'Staudhammer', 'F' |
| Highest salary under 30? |  |
| Highest salary under 40? |  |
| Highest salary over 50? |  |
| Highest salary over 60? |  |

Did any of these queries make you wonder about other statistics for the database? If so, come up with the queries!