NYC DATA SCIENCE ACADEMY

SQL Homework Part 1

Data Science Bootcamp

Instructions

- There are 2 sections in this homework. Each section contains 5-10 queries. The questions are easy. You need to
  - Write the solution queries in Mysql.
  - Save the queries into a file named "*yourname*_sql_quiz.sql". (Before each query, add a comment - a line starting with two dashes - indicating which question this query answers.)
  - Push your solution file to Github (bootcamp3_student repo, sql_quiz_part1 folder).

Section 1

- For this set of questions, use the sqlexercise database. There is a table called SLEEP.

```
$ mysql
mysql> use sqlexercise;
mysql> DESCRIBE SLEEP;
```

1. Write a query to return columns id and extra from table SLEEP.
2. Rewrite the previous query so that extra will appear as the first column in your query result.
3. Write a query to return all the category values, without repetitions.

Section 1

4. Write a query to return every id whose extra > 0.
5. Write a query to return the total of extra in each category (call it extraSum) and the number of records in each category (call it categoryNum).
6. Write a query to return the average extra of each category (call it mean_extra).

Section 2

- For this set of questions, use your own database. There are two tables "Department" and "Employee".

```
mysql> use yourname_db;
mysql> DESCRIBE Department;
mysql> DESCRIBE Employee;
```

Answer the following questions using these two tables.

1. Select the first 10 rows in table Department.
2. Write a query to return the employeename, hiredate, basewage from table Employee.

Section 2

3. Write a query to return the total wage of employees.

```
total wage = basewage * baselevel
```

4. Write a query to return names of employees whose basewage ranges from 2000 to 3000, sort the result by basewage in descending order. *(Look up online how to use ORDER BY to sort descending.)*

5. Write a query to return the employeename, hiredate, basewage whose name ends with **8** and who was hired after June 10, 2010. (Hint: read pattern matching in Mysql)

6. Write a query to return the employeename and corresponding departmentid whose total wage is larger than 7000.

Section 2

7. Write a query to return the departmentid of departments that have more than 10 employees with basewage > 3000.
8. Write a query to return the average total wage in each department. Sort the results by average wage in ascending order.
9. Write a query to return the average total wage of males of females in each department. Sort the results by DepartmentID in descending order.
10. Write a query to return the name of each employee, along with his/her deparmentname and the principal in the department. (*Hint: use JOIN.*)