Homework Assignment #1
Database Systems course (2008-2009)

Objectives

To understand and be able to manipulate SQL queries.

Data

We'll use Oracle's Human Resources (HR) schema, which can be found on TAU's server or on a local Oracle Express Edition installation. More information can be found at the course slides..

Requirements

For each question, you are required to provide the following:

- The SQL query you used
- The answers
- Any assumptions you made

Please note that your query must return the answer of the question exactly; if the answer asks for a count of something, return that count, etc. Unless it's part of the query, we do NOT want duplicates in the answers. If you create a view, please include the view definition in your answer. The questions are (roughly) in order from least to most difficult.

Submission

Please include in your solution the following files:

- Valid SQL script with only the queries to all questions. Please write before each query the question number (and any assumptions you made) in a comment format ("/*...*/"). The file name should be <username>.sql. For example:

```
/* q1 */
select * from blabla

/* q2 */
/* we assumed blabla */
select * from blabla2
```

- For each question, its corresponding result file (for example q1.csv/xls).

Please be kind and send me one compressed file containing all the ones described above (<username>.zip/rar…)

Questions

1. What are the names of all the states/provinces in the database (sorted)?
2. Find the location(s) ID and street address that has "St" in their address
3. Find the job(s) with a max gap of 5000 between the max and min salaries. Return the job(s) full details
4. Select all regions (names), country names, cities and department names (sorted by department name), for Americas and Asia.
5. How many locations are in Europe?
6. From each department find the average salary given for the corresponding employees. Return the department name and average salary (ordered by the average salary).
7. Select the departments' names and gaps between the highest and lowest salary given for the corresponding employees. Filter out departments with gaps bellow 6000. Order the results by the gap.
8. Get the managers (first and last names) that used to have a different job before the current (hint: use job history). Find out how many employees each of them manage (and order by it).
9. Find the employee's salary for the employee who earns the lowest salary in the department that is managed by the manager who earns the highest salary. You may NOT use Oracle's ROWNUM pseudo column.
10. Give an interesting query of your own that is not already in the assignment. The query should involve at least two joins, HAVING clause and aggregation operation. Give the English explanation and the answer.