

Homework Assignment #1

Database Systems course (2009-2010)

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.

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 specifically asked, we do NOT want duplicates in the answers. If you know what views are, then keep it to yourself (i.e. don't use views). The questions are (roughly) in order from least to most difficult.

Submission

Your solution should be assigned hardcopy (that is, print it..)

For each question, your solution should include:

- The query (shift "SQL keywords" as much as possible for easy understanding)
- The results. You must make sure that table is aligned
- Any assumption you made

Tip for handling the results: if you are using Word, export your results from "SQL Developer" to a ".xls" file, and then simply drag that file into Word.

Example Format

Q1

// any assumptions you made regarding q1 should be written here..

```
SELECT      *
FROM        regions
```

```
REGION_ID REGION_NAME
         1 Europe
         2 Americas
         3 Asia
         4 Middle East and Africa
```

Q2

```
SELECT      department_name
FROM        departments
WHERE       lower(department_name) LIKE '%it%'
```

```
DEPARTMENT_NAME
IT
Control And Credit
Benefits
IT Support
IT Helpdesk
Recruiting
```

Questions

1. What are the names of all the cities in the database (sorted)?
2. Find the location(s) ID and street address that has "Rd" in their address
3. Find all employees who earn more than 7000. Return their first name, last name and salary (ordered by their salaries).
4. Select all regions (names), country names, cities and department names (sorted by department name), who are NOT in the Europe and Asia.
5. How many locations are in Asia?
6. From each department find the number of employees which work in it. Return the department name and the employee count (ordered by the employee count).
7. Return the department's name that hires the most expensive employee. Return that salary as well.
8. Get first and last name of the managers (i.e. the ones that manage employees) that are also managing a department. 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 from all the ones who are managed by the manager (NOT department 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.