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| **Lab Week 11 Report** | | | |
| **Class** | Database | **Group ID** | 11 |
| **Student ID** | 12151302 | **Name** | LEE HAESEONG |
| **Student ID** | 12151310 | **Name** | JANG HYOJUN |
| **Student ID** | 12171479 | **Name** | KIM HYUNJIN |
| **Student ID** | 12181465 | **Name** | KIM JAEWUK |
| **Lab Topic** | SQL Exercises with group members3 | | |

**Task 1: Display the list of all course sections offered in Spring 2010, along with the names of the instructors teaching the section.**

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| **Ⅰ. Code**  Select course\_id sec\_id ID,(case when name is NULL then ‘-’ else name end)as “instructor”  From (section natural left outer join teaches) Natural left outer join instructor  where semester =‘spring’ and year = 2010;  **Ⅱ. Explain**  Outer join returns a row even if there is no one value in the join condition. Namely  /Left table/ left outer join /right table/ means that the table on the left should all be combined even if the conditions are not met.  Make a query to select the instructor responsible for the section that was held in Spring,2010.  To find instructors suitable for section, tie the tables together to create a table (actually left table) and keep them on the right table because the instructor also needs to find instructors who taught lectures in spring,2010.  In other words, to explore the same spring,2010 conditions for the three tables, two left outer joins were used and where instead of on was used to print only those that met the spring,2010 conditions in the results.  **Ⅲ. Result** |

**Task 2:** **Display the list of all departments, with the total number of instructors in each department, without using scalar subqueries.**

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| **Ⅰ. Code**  Select dept\_name,(count(ID)) as “Number of instructors”  From department natural left outer join instructors  Group by dept\_name;  **Ⅱ. Explain**  The left table of the left outer join shall be used to print all department and can be combined without on, as the ‘dept\_name’ of the ‘instructor’ refers to the ‘dept\_name’ of the department.  Since dept\_name can include multiple instructors, a query was created using count(ID) to count and print the instructor ID for each dept\_name.    **Ⅲ. Result** |