

Lab 7

Objectives:

At the end of this lab, you should be able to:

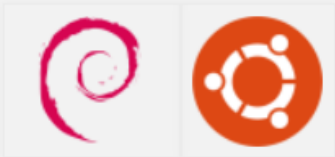



- Writing a query using Relational Algebra.
- Writing a query using Query By Example.

Relational Algebra

Visit the following Website and download and install the Software (Relational)

<https://ltworf.github.io/relational/>

Install

			
<code>apt install relational</code> or Download .deb	Download setup Please contribute	Download sources	Download sources Please contribute

Create the following Tables in the Relational Software:

Dept Table

DNO	DNAME	LOC
10	IT	DENVER
20	HR	OHIO
30	SALES	DALLAS

Emp Table

ENO	ENAME	DNO	SAL	JOB
222	MIKE	10	3000	MANAGER
333	TYSON	20	1250	CLERK
111	SAM	10	1450	OPERATOR
444	HARES	20	2000	SALESMAN

Dependent Table

ENO	name	relation
111	smith	son
111	john	daughter

Salgrade Table

GRADE	LOSAL	HISAL
B	1501	2500
C	2501	5000
A	800	1500

Test the natural join between the emp and dept relations and press Execute

ENO	ENAME	DNO	SAL	JOB	DNAME	LOC
111	SAM	10	1450	OPERATOR	IT	DENVER
333	TYSON	20	1250	CLERK	HR	OHIO
222	MIKE	10	3000	MANAGER	IT	DENVER
444	HARES	20	2000	SALESMAN	HR	OHIO

T1=emp ⋈ dept

Execute

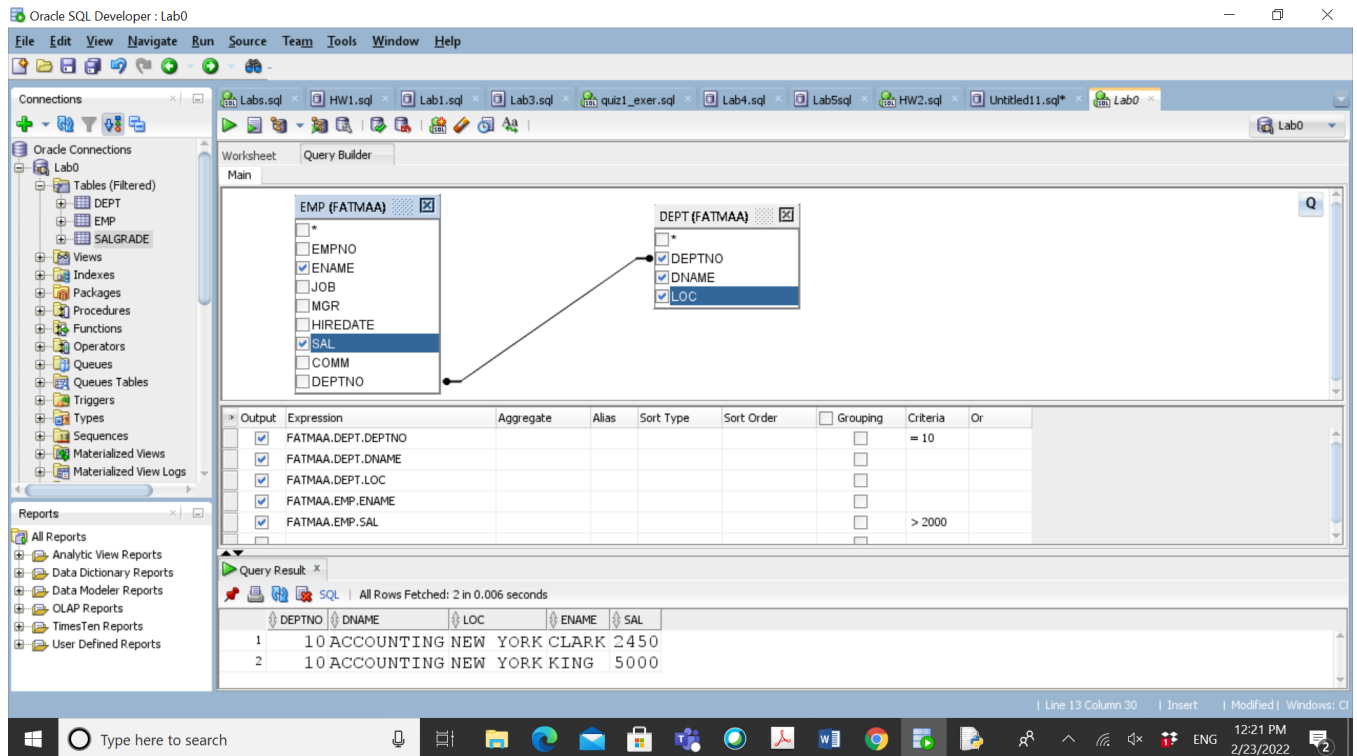
Practice: Write a query using relational algebra

- 1- Retrieve the Employee Names and Salary from Employee Table.
- 2- Retrieve Employee's names and salaries between 1000 and 2000.
- 3- Retrieve the names of employees who work in DENVER and have a Salary greater than 2000.
- 4- Retrieve the names of the employees who have no dependents.
- 5- Retrieve the employee names and department names.
- 6- Retrieve the names of employees who are in Grade A or Grade B.
- 7- Retrieve the Department names and Employee names including the department that do not have employees.
- 8- Retrieve the names and salaries for the SALESMAN.
- 9- Retrieve the names and salaries for all employees except the MANAGER.
- 10- Retrieve Eno and Dno for all employees who work in DENVER.

Query By Example:

We will use query builder in SQL developer to solve query by example exercises.

Write a query that retrieve employee name, salary for employee working in department 10 and their salaries are greater than 2000.



Practice: Write a query using query by example

- 1- Retrieve the Employee Names and Salary from Employee Table.
- 2- Retrieve Employee's names and salaries between 1000 and 2000.
- 3- Retrieve the names and salaries for all employees who do not get commission.
- 4- Retrieve Eno and Dno for all employees who work in SALES department.
- 5- Retrieve ename and grade for all employees who work in department 20.