

Exercise 3: SELECT and PROJECT operations.

Let us consider the following tables which will be used to demonstrate the SELECT and PROJECT operations.

EMPLOYEE

SSN	Name	DOB	Address	Gender	Salary	SuperSSN	DNo
1111	Divya	20-Feb-82	Malleswaram	M	22000	4444	1
2222	Scott	10-Dec-60	Rajajinagar	M	30000	4444	3
3333	Pooja	22-Jan-65	Indiranagar	F	18000	2222	2
4444	Prasad	11-Jan-57	Rajajinagar	M	32000	Null	3
5555	Reena	15-Jan-85	MG Road	F	8000	4444	3

PROJECTS

PNo	PName	PLocation	DNo
10	Library Management	USA	2
20	ERP	Chennai	1
30	Hospital Management	Mumbai	3
40	Wireless Network	London	2

The general form of selection operation is shown below.

σ <selection-condition> (Relation)

1. Find the employees whose salary is greater than 10000.
2. Find the employees who work for department 3 and whose salary is greater than 30000.
3. Find all the employees who either work in department 1 and earn over 20000 or work in department 3 and earn over. 29000.
4. List all the projects controlled by department 2.

In relational algebra, the mathematical symbol, π (pi) is used for projection. The general syntax for projection is shown below:

$\pi_{\langle \text{attribute} \rangle}(\text{Relation})$

1. List the name and salary of all the employees.
2. Retrieve the Name and Salary of all employees who are working for department 1.
3. List the name and location of the projects which are not controlled by department 2.