Birla Institute of Technology & Science Pilani, K.K Birla Goa Campus
CS-F212 Database Systems
Sem2 2020-2021
Lab 3 Questions - Relational Algebra

- Aanand,Aditya,Harshit,Tanishq

Scenario 1
Consider the following Relational Schema

- **Employee(eno,Name,Telno,post,DOJ,sal,city)**
- **Project (pno,Managerid,location)**
- **Assigned(eno,pno,date,task,deadline)**

Give a Relational Algebra expression for each of the following queries:

1. List the name of all Employees

2 . List the name & telno of all junior engineers.

3. List the name & post of those employees who lives in mumbai & have salary >10,000.

4. Find the names of employees where projno=123

5. Find the location where employee no 5 has worked

6. Find the city of the managers of all the projects located at Dadar. Assume Managerid field contains eno.

7. Find the eno who are assigned the pno 123 after the manager of the project joined the organisation.

8. Find the Employees who are living in the same city as that of employee ‘XYZ’.

9. Find the complete details of all the employees who are assigned to project no 123.

10. Find the employees who are working at the same location where they reside.

11. Find the employees who are working with employee xyz.

12. Find the projects whose location is the same as their manager’s city.

13. Find Maximum salary

14. Find the Minimum Salary

15. Find employee with no task

16. Find employee who works on all projects

17. List all tasks to be completed today

18. List the manager who has a deadline today

19. List all employees who are not managers

20. List all employees with no projects

21. List projects whose deadlines are over

22. List the names of all employees with a deadline today

Scenario 2:

Consider the following Sailors-Boats-Reserves Database Schema:

S (sid, sname, rating, age)
B (bid, bname, color)
R (sid, bid, date)

Give a Relational Algebra expression for each of the following queries:

1. Find the colors of boats reserved by Albert.
2. Find all IDs of sailors who have a rating of at least 8 or have reserved boat 103.
3. Find the names of sailors who have not reserved a red boat.
4. Find the IDs of sailors with age over 20 who have not reserved a red boat.
5. Find the names of sailors who have reserved at least two boats.
6. Find the names of sailors who have reserved all boats.
7. Find the names of sailors who have reserved all boats called BigBoat.
8. Find the IDs of sailors whose rating is better than some sailor called Bob.
9. Find the IDs of sailors whose rating is better than every sailor called Bob.
10. Find the IDs of sailors with the highest rating.
11. Find the name and age of the oldest sailor