Focus of lab work in this week is to learn and practice Relational Algebra and SQL. Always follow the sequence of Relational Algebra and then SQL while writing queries.

1. Write down queries for following queries on company schema created in last week-
   a. List particulars of Employees for department no = 1.
   b. List particulars of all Employees working at 'Headquarter'.
   c. List the Department Name and Name of its Manager.
   d. List Employees directly supervised by 'Franklin' (fname)
   e. List the names of all employees in department no = 5 who work more than 10 hours per week on the ProductX project.

2. Understand schema of DA-IICT academic scenario from DDL script http://intranet.daiict.ac.in/~pm_jat/acad_ddl.sql, and draw relational schema diagram for the same.

   Also, and write down queries for following queries-
   a. Retrieve all students of B.Tech.(CS) batch 2007 having CPI >= 7.0
   b. List ID, and Name of students who have registered in 'MT101' in 'Autumn' of 2008
   c. List Courses offered by Instructor 'P M Jat' in 'Winter' of 2010

   You can test run your SQL queries on sample database stored in a database named as public (schema **acad**) on your postgresql server.

3. Get introduced with following relational schema, given as following -

   ```
   Suppliers(sid:int, sname:varchar(20), city:varchar(20))
   Parts(pid:int, pname:varchar(20), color:varchar(10))
   Supplies(sid:int, pid:int, cost:int)
      -- sid and pid are FKs referring into Suppliers and Parts respectively
   ```

   Write down queries in relational algebra and SQL for following queries-
   a. Find the names of suppliers who supply some red part.
   b. Find **sid** of suppliers who supply some red or green part
   c. Find the **sid** of suppliers who supply some red part or are located at 'Delhi'.

   You can test your SQL queries on sample database stored in a database named as public (schema **supplyparts**) on your postgresql server.