

Lab – 10 28-Nov-2020	DB_Project_Assignment_6
IT214 Database Management System, Autumn'2020; Instructor: minal_bhise@daiict, TA: mayank@daiict	

Objectives: I) Lab-9: Normalization and Schema Refinement & Re-write DDL Scripts.
II) SQL Queries

Submission: Each student team needs to upload a **single.pdf** file, which will contain the following things for the specific case study assigned to your team.

- 1) Schema Refinement Process till 3NF/BCNF. & Final DDL Script of all tables & Insert statements.
- 2) 40 English & SQL Queries(**Make sure to write Simple & Complex queries**).

I. Lab-9: Normalization & Schema Refinement & Re-write DDL Scripts

- 1) Complete the Normalization till 3NF/BCNF (if not finished in last lab).
- 2) Recreate database by writing all Create Table statements (DDL) to accommodate the new design which is in 3NF/BCNF.
- 3) Create instance of this new database by populating it using appropriate INSERT INTO statements /using scripts. Make sure that every table has at least 80-100 tuples.

Submit:

- Documentation of normalization & Schema Refinement Process upto 3NF/BCNF: This document should contain:
 - List of redundancies existing for every schema which is part of the database.
 - List of update, delete, and insert anomalies for every schema.
 - Document the logic of how you arrived at the 3NF/BCNF design step by step starting from the original design.
- Write down final relations with the schema.
 - i.e., **R1(A1, A2, A3,... An)**.
 - Make sure to underline the PK attributes.
- DDL Snapshots: Put the snapshot of all tables after creating them inside Postgres with DDL.
- Data Snapshots: Put the snapshot of select * queries of all the tables after insertion of data. Mention number of records of each table.

II. SQL Queries.

- 1) Write about 40 queries for the Case Study. Make sure that your database is able to answer range of queries starting from simple (no join) to complex queries (multiple joins, sub-queries, etc).
- 2) Run these SQL queries for the instance of the database created by you.
- 3) Take snapshots of SQL query and query output for each SQL query

Submit:

- List of 40 queries (in plain English) that you have identified for your database. For each query submit below details:
 - i. Plain English query. **Make sure to write minimum 20 Complex queries out of 40 total queries. You can also write Triggers & Functions(Stored Procedures).**
 - ii. SQL Answer for that query.
 - iii. **Snapshots** of the SQL Queries and their answers when you run them for the created instance.

Submission:

File must be submitted during Lab between 11:30AM-12:30PM:

TeamNo_Lab10_SQLQueries_28-Nov-2020.pdf

example => “S2_T3_Lab10_SQLQueries_28-Nov-2020.pdf**” for Team **3** of section **2**