PostgreSQL Project for Lab Session

Objective

This project is designed to help students practice querying data from a PostgreSQL database. Students will learn how to create tables, insert data, and use various SQL clauses such as SELECT, COLUMN ALIASES, ORDER BY, and SELECT DISTINCT.

Instructions

Follow the steps below to create the necessary tables, insert data, and perform various queries. Each step builds on the previous one, so complete them in order.

Step 1: Create the Database and Tables

1. **Create a Database**
   o Create a new database named school.
   o Connect to the school database.
2. **Create Tables**
   o Create the following tables: students, courses, and enrollments.

Step 2: Insert Data into Tables

Students Table:

student_id	first_name	last_name	birth_date
1	John	Doe	2000-01-15
2	Jane	Smith	1999-03-22
3	Alice	Johnson	2001-07-30
4	Bob	Brown	2000-12-05

Courses Table:

course_id	course_name	course_code
1	Database Systems	CS101
2	Algorithms	CS102
3	Data Structures	CS103
4	Operating Systems	CS104

Enrollments Table:

enrollment_id	student_id	course_id	enrollment_date
1	1	1	2024-08-01
2	1	2	2024-08-01
3	2	1	2024-08-01
4	3	3	2024-08-01
5	4	4	2024-08-01

enrollment_id	student_id	course_id	enrollment_date
6	4	1	2024-08-01

Step 3: Query the Data

1. **Select Data**

   o Write a query to select all data from the students table.

2. **Column Aliases**

   o Write a query to assign temporary names to columns or expressions within a query for the students table.

3. **Order By**

   o Write a query to sort the result set returned by a query from the students table based on the last name.

4. **Select Distinct**

   o Write a query to remove duplicate rows in the result set from the enrollments table.