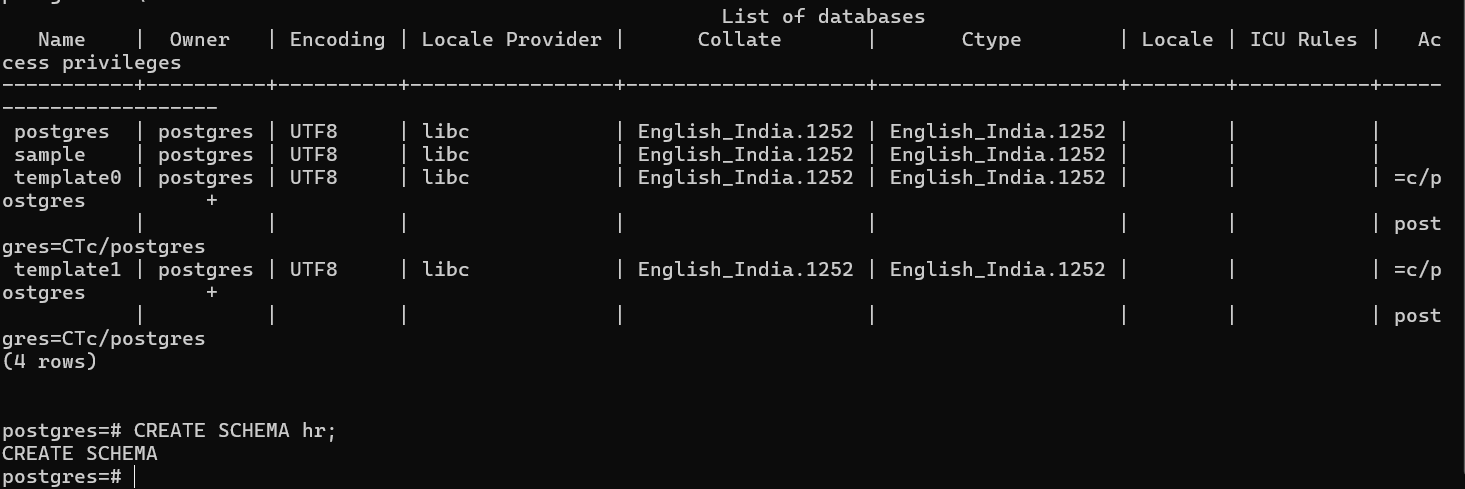
**Hands-on No. : 2**

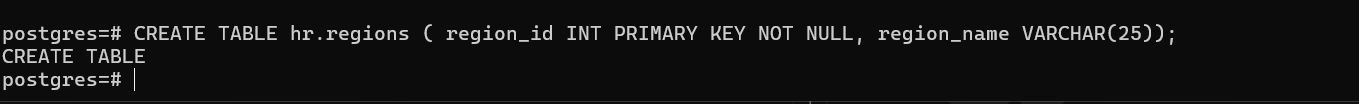
**Topic : SQL Basics**

**Date : 16.09.2025**

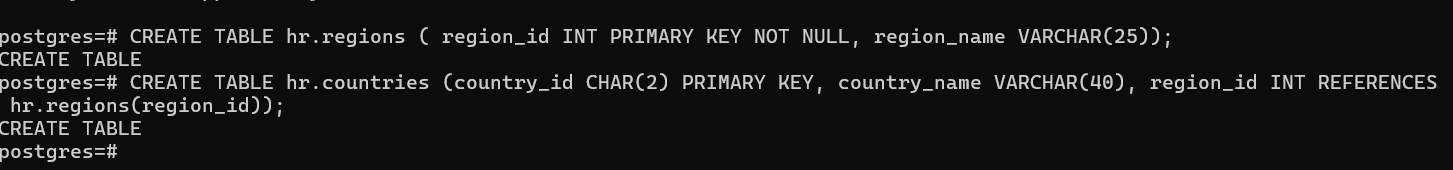
1. Schema Creation o Q1: Write a SQL query to create a new schema named hr.



1. Regions Table o Q2: Create a table named regions with the following:
   * + - * region\_id as primary key (INT, not null).
         * region\_name with a maximum of 25 characters.



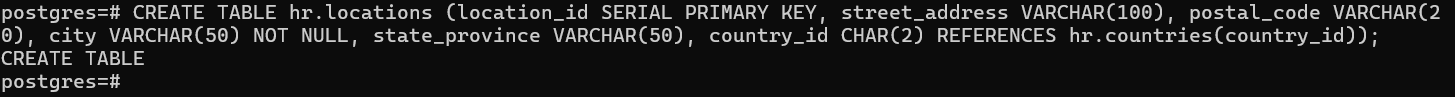
1. Countries Table o Q3: Create a table named countries with:
   * + - * country\_id (2-character code, primary key).
         * country\_name (up to 40 characters).
         * region\_id (foreign key to regions).



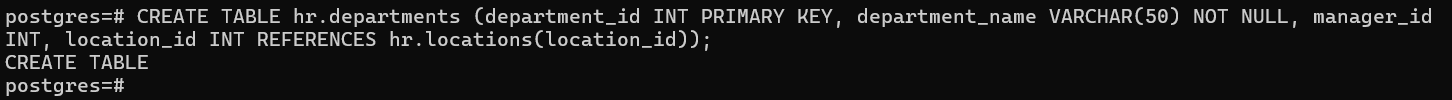
1. Locations Table

o Q4: Create a table named locations with:

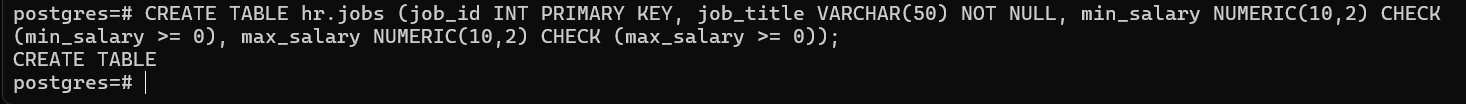
* + - * + location\_id (INT, auto-increment, primary key).
        + street\_address, postal\_code, city (not null), state\_province.
        + country\_id referencing the countries table.



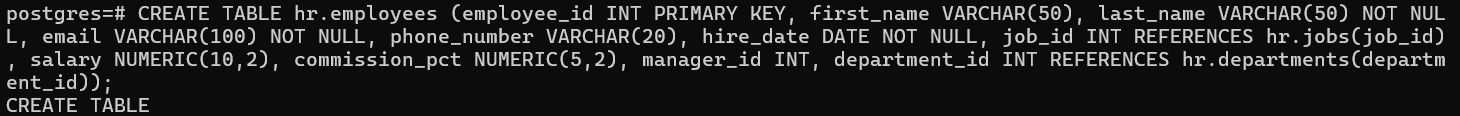
1. Departments Table o Q5: Create a table named departments with:
   * + - * department\_id (primary key).
         * department\_name (not null).
         * manager\_id (employee reference, nullable).
         * location\_id referencing locations.



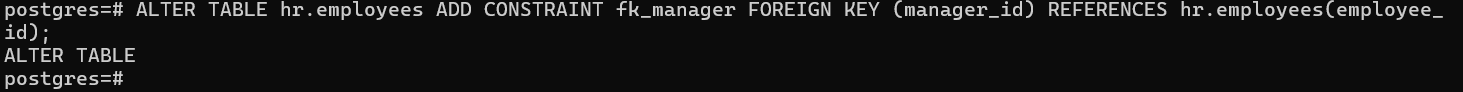
1. Jobs Table o Q6: Create a table named jobs with:
   * + - job\_id (primary key).
       - job\_title (not null).
       - min\_salary and max\_salary (unsigned decimals).



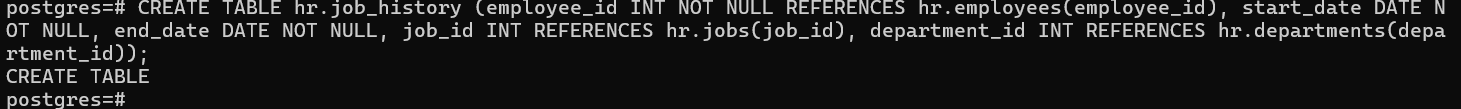
1. Employees Table
   * Q7: Create a table named employees with the following attributes:
     + - employee\_id (primary key).
       - first\_name, last\_name (last name not null).
       - email (not null).
       - phone\_number, hire\_date (not null).
       - job\_id, salary, commission\_pct, manager\_id, department\_id.



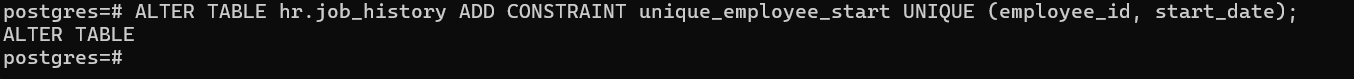
* + Q8: Ensure that employee\_id can be used as a manager for another employee (self-referencing foreign key).



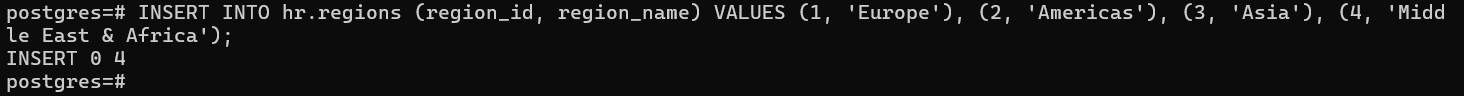
1. Job History Table o Q9: Create a table named job\_history with:
   * + - employee\_id (not null).
       - start\_date, end\_date (not null).
       - job\_id, department\_id.



* + Q10: Add a unique constraint on (employee\_id, start\_date).

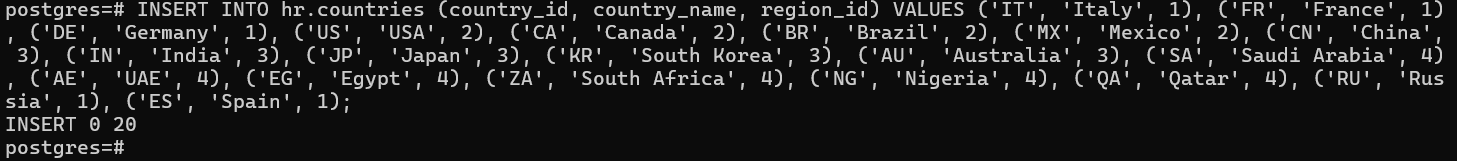


1. Regions Data

Q11: Insert records for 4 regions: *Europe, Americas, Asia, Middle East & Africa*. 

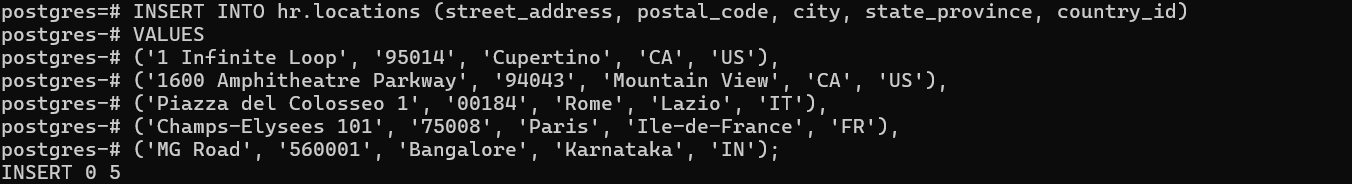
1. Countries Data

Q12: Insert records for at least 20 countries with their region mappings (e.g., Italy–Europe, India–Asia, USA–Americas).



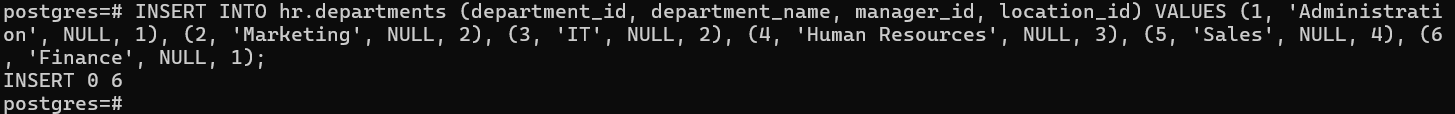
1. Locations Data

Q13: Insert records for office locations with proper address, postal code, city, state, and country\_id.



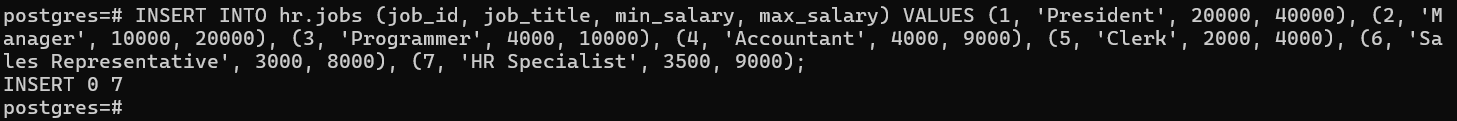
1. Departments Data

Q14: Insert multiple departments such as *Administration, Marketing, IT, Human Resources, Sales, Finance,* etc., with their manager\_id and location\_id.



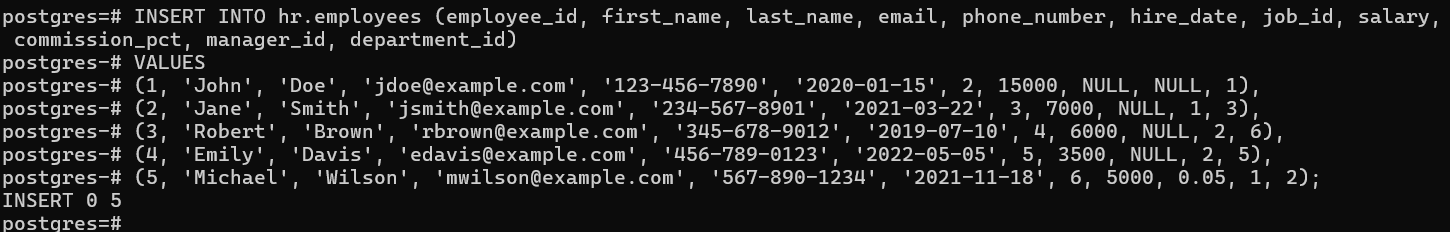
1. Jobs Data

Q15: Insert different job roles with job titles and salary ranges (e.g., President, Manager, Programmer, Accountant, Clerk, etc.).

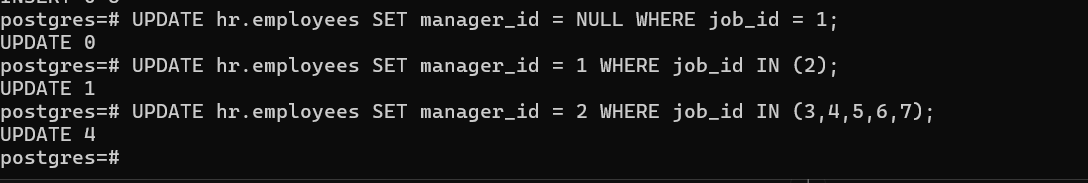


1. Employees Data

Q16: Insert employee details including employee\_id, name, email, hire\_date, job\_id, salary, manager\_id, department\_id.



Q17: Ensure hierarchy is maintained (e.g., VP reports to President, Managers report to VP, etc.).



1. Job History Data

Q18: Insert employee job history with details of previous jobs, departments, and start & end dates.

