Homework - Exercises

You will work with TWO tables in this case study:

1. departments table

- Fields:

- dept_id (PRIMARY KEY)

- dept_name (VARCHAR(50), UNIQUE, NOT NULL)

- location (VARCHAR(50))

- Constraints: dept_id, PRIMARY KEY on dept_id, UNIQUE on dept_name.

2. employees table

- Fields:

- emp_id (PRIMARY KEY)

- name (VARCHAR(50), NOT NULL)

- email (VARCHAR(100), UNIQUE)

- dept_id (INT, FOREIGN KEY referencing departments.dept_id)

- salary (DECIMAL(10,2), CHECK (salary > 0))

- Constraints: PRIMARY KEY on emp_id, UNIQUE on email,

FOREIGN KEY on dept_id referencing departments.dept_id, CHECK on salary.

Follow these questions:

1. Create a table departments with the above fields and constraints.

2. Create a table employees with the above fields and constraints.

3. Insert at least 3 departments (HR, IT, Finance) into departments.

4. Insert 5 employees with varying departments. At least two should have the same name "Ajay" but different emails.

5. Add a new column phone (varchar 15) to the employees table.

6. Rename phone column to contact_no.

7. Modify the size of contact_no column to varchar(20).

8. Drop the contact_no column from employees.

9. Update the salary of all employees named “Ajay” in the HR department to 55000.

10. Delete all employees from the Finance department.

11. Show all employees not in the IT department.

12. Show all employees who are in IT or HR department.

13. Show all employees who are in IT department and have salary greater than 50000.

14. Delete all rows from employees without dropping the table.

15. Truncate the employees table and check the value.

16. Drop the departments table completely.

17. Identify the candidate keys, primary key, super keys and foreign keys in the employees table.

18. Add a new constraint to ensure salary is at least 30000.

19. Drop the foreign key constraint from the employees table.

20. Re-add the foreign key constraint linking dept_id from employees to departments.