**# SQL Challenge: Employee Database Analysis**

**## Overview**

This project aims analyze employee data from Pewlett Hackard (a fictional company) from

the 1980s and 1990s. The analysis involve six CSV files containing several employees

information. The project includes data modeling, data engineering, and data analysis.

**## Data Modeling**

An Entity Relationship Diagram (ERD) was created to visualize the relationships between the

six tables:

- departments

- dept\_emp

- dept manager

- employees

- salaries

- titles

**Entity Relationship Diagram** ./EmployeeSQL/ERD/ERD\_diagram.png

## Data Engineering

Tables were created to store the data from the CSV files. The tables include appropriate data

types, primary keys, foreign keys, and constraints.

**Key considerations in the schema design:**

- Primary keys were established for each table

- Foreign keys were used to create relationships between tables

- NOT NULL constraints were applied where necessary

- Appropriate data types and lengths were defined

**## Data Analysis**

The following analyses were performed on the employee database:

1. Employee details including number, name, sex, and salary

2. Employees hired in 1986

3. Department managers with their department information

4. Department information for each employee

5. Employees with the first name

6. Employees in the Sales department

7. Employees in the Sales and Development departments

8. Frequency counts of employee last names

**## Technologies Used**

- PostgreSQL

- QuickDBD (for ERD creation)

- SQL

**## Installation and Setup**

1. Clone this repository to your local machine

2. Create a database in PostgreSQL

3. Run the `table\_schema.sql` file to create the tables

4. Import the CSV files into their respective tables

5. Run the `queries.sql` file to perform the analyses