SQL Learning



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**Day 11 - SQL Assignment: Comprehensive Practice**

**Example Table: Employee Information**

Here's the SQL code to create a table for the assignment:

-- Drop the table if it already exists DROP TABLE IF EXISTS employees;

-- Create the employees table

CREATE TABLE employees (

employee\_id SERIAL PRIMARY KEY,

first\_name VARCHAR(50) NOT NULL,

last\_name VARCHAR(50) NOT NULL,

department VARCHAR(50),

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

joining\_date DATE NOT NULL,

age INT CHECK (age >= 18));

Insert some sample data into the `employees` table:

-- Insert data into employees table

INSERT INTO employees (first\_name, last\_name, department, salary, joining\_date, age) VALUES

('Amit', 'Sharma', 'IT', 60000.00, '2022-05-01', 29),

('Neha', 'Patel', 'HR', 55000.00, '2021-08-15', 32),

('Ravi', 'Kumar', 'Finance', 70000.00, '2020-03-10', 35),

('Anjali', 'Verma', 'IT', 65000.00, '2019-11-22', 28),

('Suresh', 'Reddy', 'Operations', 50000.00, '2023-01-10', 26);

**Practice Assignment Questions with Answers :**

Q1: Retrieve all employees' first\_names and their departments.

Q2: Update the salary of all employees in the 'IT' department by increasing it by 10%.

Q3: Delete all employees who are older than 34 years.

Q4: Add a new column `email` to the `employees` table.

Q5: Rename the `department` column to `dept\_name`.

Q6: Retrieve the names of employees who joined after January 1, 2021.

Q7: Change the data type of the `salary` column to `INTEGER`.

Q8: List all employees with their age and salary in descending order of salary.

Q9: Insert a new employee with the following details: 'Raj', 'Singh', 'Marketing', 60000, '2023-09-15', 30.

Q10: Update age of employee +1 to every employee.

**Solution**

**----to create a table---------**

**CREATE TABLE EMP1 (**

**EMPLOYEE\_ID SERIAL PRIMARY KEY,**

**FIRST\_NAME VARCHAR(50) NOT NULL,**

**LAST\_NAME VARCHAR(50) NOT NULL,**

**DEPARTMENT VARCHAR(50),**

**SALARY DECIMAL(10, 2) CHECK (SALARY > 0),**

**JOINING\_DATE DATE NOT NULL,**

**AGE INT CHECK (AGE >= 18)**

**);**

**----inserting data into table-----------**

**INSERT INTO emp1 (first\_name, last\_name, department, salary, joining\_date, age) VALUES**

**('Amit', 'Sharma', 'IT', 60000.00, '2022-05-01', 29),**

**('Neha', 'Patel', 'HR', 55000.00, '2021-08-15', 32),**

**('Ravi', 'Kumar', 'Finance', 70000.00, '2020-03-10', 35),**

**('Anjali', 'Verma', 'IT', 65000.00, '2019-11-22', 28),**

**('Suresh', 'Reddy', 'Operations', 50000.00, '2023-01-10', 26);**

**----to see the data and table -----**

**select \* from emp1;**

**----Retrieve all employees' first\_names and their departments.-------------------**

**select first\_name,department from emp1;**

**-----Update the salary of all employees in the 'IT' department by increasing it by 10%.--------**

**update emp1**

**set salary = salary \* 1.10;**

**update emp1**

**set salary = salary \* 1.10**

**where dept\_name = 'IT';**

**-------Delete all employees who are older than 34 years.------------**

**delete from emp1**

**where age>=34;**

**------Add a new column `email` to the `employees` table.--------**

**alter table emp1**

**add column email varchar(50);**

**------Rename the `department` column to `dept\_name`.---------**

**alter table emp1**

**rename column department to Dept\_name;**

**-----Retrieve the names of employees who joined after January 1, 2021.--------**

**select first\_name,last\_name from emp1**

**where joining\_date >'01-01-2021';**

**------Change the data type of the `salary` column to `INTEGER`.-----**

**alter table emp1**

**alter column salary type int;**

**alter table emp1**

**alter column salary type integer using salary::integer;**

**----- List all employees with their age and salary in descending order of salary.--------**

**select first\_name,last\_name,age,salary from emp1**

**order by salary desc;**

**----- Insert a new employee with the following details: 'Raj', 'Singh', 'Marketing', 60000, '2023-09-15', 30.-----**

**INSERT INTO emp1 (first\_name, last\_name, dept\_name, salary, joining\_date, age) VALUES**

**('raj', 'Singh', 'marketing', 60000.00, '2023-09-15', 30);**

**------Update age of employee +1 to every employee.-------**

**update emp1**

**set age = age+1;**