

/* Sales company data is used for the analysis

The database named **"employees"** containing tables related to employee management.

These include employee details, departments, department assignments, managers, salaries and sales data.*/

#select schema/ database

USE employees;

#demonstrate SELECT, FROM & WHERE clause

SELECT

emp_no, first_name, last_name

FROM

employees

WHERE

gender = 'M';

#use **"*"** and ORDER BY clause

SELECT

*

FROM

employees

ORDER BY hire_date DESC;

#use of GROUP BY function

SELECT

COUNT(gender)

FROM

employees

GROUP BY gender;

#uses of different type of joins in queries

SELECT

e.emp_no, e.first_name, e.last_name, s.salary

FROM

employees AS e

INNER JOIN

salaries AS s ON e.emp_no = s.emp_no;

SELECT

*

FROM

employees AS e

LEFT JOIN

```
salaries AS s ON e.emp_no = s.emp_no;
```

```
SELECT
```

```
    *
```

```
FROM
```

```
    employees AS e
```

```
    RIGHT JOIN
```

```
    salaries AS s ON e.emp_no = s.emp_no;
```

```
#demonstrate the use of subqueries in MySql
```

```
SELECT
```

```
    first_name, last_name
```

```
FROM
```

```
    employees
```

```
WHERE
```

```
    (SELECT
```

```
        emp_no
```

```
    FROM
```

```
        dept_manager
```

```
    WHERE
```

```
        employees.emp_no = dept_manager.emp_no);
```

```
#use of aggregate functions (SUM, AVG, MIN, MAX)
```

```
SELECT
```

```
    MIN(salary)
```

```
FROM
```

```
    salaries;
```

```
SELECT
```

```
    MAX(salary)
```

```
FROM
```

```
    salaries;
```

```
SELECT
```

```
    SUM(salary)
```

```
FROM
```

```
    salaries;
```

```
SELECT
```

```
    AVG(salary)
```

```
FROM
```

```
    salaries;
```

#creating views in MySql

#the purpose of creating views is to simplify complex queries.

#It doesn't store data itself but shows data from one or more tables through a saved query.

```
CREATE OR REPLACE VIEW gender_average_salary AS
```

```
(SELECT
```

```
    a.gender, AVG(b.salary)
```

```
FROM
```

```
    employees AS a
```

```
    JOIN
```

```
    salaries AS b ON a.emp_no = b.emp_no
```

```
WHERE
```

```
    hire_date > '2000-01-01'
```

```
GROUP BY a.gender);
```

#An index is like a table of contents for your database, it makes searching faster.

#It helps SQL find rows quicker, especially in large tables.

```
SELECT
```

```
    *
```

```
FROM
```

```
    employees
```

```
WHERE
```

```
    emp_no BETWEEN 10001 AND 10078;
```

#creating index from above query

```
CREATE INDEX id_emp_no ON employees(emp_no);
```