Lab 14:

1. Write SQL code to display records from one table that is not present in next table.
2. Write SQL code to determine 10th highest marks without using TOP/LIMIT keyword.

SQL Queries:

- CREATE DATABASE lab14;
- USE lab14;
- CREATE TABLE Students (
  student_id INT PRIMARY KEY,
  NAME VARCHAR(100)
  );

- CREATE TABLE Enrollments (
  enrollment_id INT PRIMARY KEY,
  student_id INT,
  course_name VARCHAR(100)
  );

- CREATE TABLE Scores (
  student_id INT,
  marks INT
  );

- INSERT INTO Students (student_id, NAME) VALUES
  (1, 'Alice'),
  (2, 'Bob'),
  (3, 'Charlie'),
  (4, 'David');

- INSERT INTO Enrollments (enrollment_id, student_id, course_name) VALUES
  (101, 1, 'Math'),
  (102, 3, 'Science');

- INSERT INTO Scores (student_id, marks) VALUES
  (1, 90),(2, 85),(3, 95),(4, 70),(5, 88),(6, 85),(7, 91),(8, 92),(9, 75),(10, 89),(11, 93),(12, 84),(13, 82),(14, 77),(15, 78);

- SELECT s.*
  FROM Students s
  WHERE NOT EXISTS (
    SELECT 1
    FROM Enrollments e
    WHERE e.student_id = s.student_id
  );

student_id	name
2	Bob
4	David

- SELECT DISTINCT marks
  FROM Scores s1
  WHERE (
    SELECT COUNT(DISTINCT marks)
    FROM Scores s2
    WHERE s2.marks > s1.marks
) = 9;

student_id	marks
13	82

LAB 12:

1. Write SQL code to create view from Employee details table.
2. List data in view.
3. List data items using different operator.
4. Create view from multiple table and display data.

SQL Queries:

- CREATE DATABASE lab12;
- USE lab12;
- CREATE TABLE Employees (
  emp_id INT PRIMARY KEY,
  NAME VARCHAR(100),
  salary INT,
  department VARCHAR(100),
  hire_date DATE,
  dept_id INT
  );

- CREATE TABLE Departments (
  dept_id INT PRIMARY KEY,
  dept_name VARCHAR(100)
  );

- INSERT INTO Employees VALUES
  (1, 'Alice', 70000, 'HR', '2019-06-01',1),
  (2, 'Bob', 85000, 'Engineering', '2020-03-15',2),
  (3, 'Charlie', 55000, 'Sales', '2021-11-20',3),
  (4, 'David', 62000, 'Engineering', '2022-01-10',2),
  (5, 'Eve', 48000, 'HR', '2023-04-18',1);

- INSERT INTO Departments VALUES
  (1, 'HR'),
  (2, 'Engineering'),
  (3, 'Sales');

- To create view from Employeedetails table.
  CREATE VIEW EmployeeDetails AS
  SELECT emp_id, NAME, salary, department, hire_date
  FROM Employees;

- SELECT * FROM EmployeeDetails;

emp_id	NAME	salary	department	hire_date
1	Alice	70000	HR	2019-06-01
2	Bob	85000	Engineering	2020-03-15
3	Charlie	55000	Sales	2021-11-20
4	David	62000	Engineering	2022-01-10
5	Eve	48000	HR	2023-04-18

- SELECT * FROM EmployeeDetails
  WHERE salary > 60000;

emp_id	NAME	salary	department	hire_date
1	Alice	70000	HR	2019-06-01
2	Bob	85000	Engineering	2020-03-15
4	David	62000	Engineering	2022-01-10

- SELECT * FROM EmployeeDetails
  WHERE NAME LIKE 'A%';

emp_id	NAME	salary	department	hire_date
1	Alice	70000	HR	2019-06-01

- SELECT * FROM EmployeeDetails
  WHERE hire_date BETWEEN '2020-01-01' AND '2023-01-01';

emp_id	NAME	salary	department	hire_date
2	Bob	85000	Engineering	2020-03-15
3	Charlie	55000	Sales	2021-11-20
4	David	62000	Engineering	2022-01-10

- SELECT * FROM EmployeeDetails
  WHERE department IN ('HR', 'Sales');

emp_id	NAME	salary	department	hire_date
1	Alice	70000	HR	2019-06-01
3	Charlie	55000	Sales	2021-11-20
5	Eve	48000	HR	2023-04-18

- CREATE VIEW EmployeeWithDept AS
  SELECT
    E.emp_id,
    E.name,
    E.salary,
    D.dept_name
  FROM
    Employees E
  JOIN
    Departments D ON E.dept_id = D.dept_id;

- SELECT * FROM EmployeeWithDept;

emp_id	name	salary	dept_name
1	Alice	70000	HR
2	Bob	85000	Engineering
3	Charlie	55000	Sales
4	David	62000	Engineering
5	Eve	48000	HR