LAB 9 ANP-C7781

Solve following questions:

1. Perform the following tasks:

a. Create Student table with following attributes (STUDENT\_ID , FIRST\_NAME, LAST\_NAME, PHONE\_NUMBER, MARKS, COURSE\_ID).

b. Create Course table with following attributes (COURSE\_ID, COURSE\_NAME).

c. Write a SQL statement to insert 8 records with your own value into the tables.

d. Write a query to get the number of students with the same course.

f. Write a query to get the student name, course name and marks of the students.

g. Write a query to get the Average marks of students course wise.

Program :-

CREATE DATABASE Student;

USE Student;



CREATE TABLE Student (

STUDENT\_ID INT PRIMARY KEY,

FIRST\_NAME VARCHAR(50),

LAST\_NAME VARCHAR(50),

PHONE\_NUMBER VARCHAR(15),

MARKS INT,

COURSE\_ID INT,

FOREIGN KEY (COURSE\_ID) REFERENCES Course(COURSE\_ID)

);



CREATE TABLE Course (

COURSE\_ID INT PRIMARY KEY,

COURSE\_NAME VARCHAR(50)

);



INSERT INTO Course (COURSE\_ID, COURSE\_NAME) VALUES

(1, 'OOPS'),

(2, 'JAVA'),

(3, 'C++'),

(4, 'PYTHON'),

(5, 'C#'),

(6, 'MONGODB'),

(7, 'KAFKA'),

(8, 'JS');



INSERT INTO Student (STUDENT\_ID, FIRST\_NAME, LAST\_NAME, PHONE\_NUMBER, MARKS, COURSE\_ID) VALUES

(1, 'Pranay', 'Surve', '8291424510', 85, 1),

(2, 'Manali', 'Patil', '8957512568', 90, 2),

(3, 'Rashmita', 'Gade', '9824258762', 88, 1),

(4, 'Ashlesha', 'Kasavkar', '9875468952', 92, 3),

(5, 'Reshma', 'Puri', '7968548952', 75, 2),

(6, 'Siddhesh', 'Chawatekar', '9659875985', 80, 4),

(7, 'Mahesh', 'Magar', '9798549856', 85, 3),

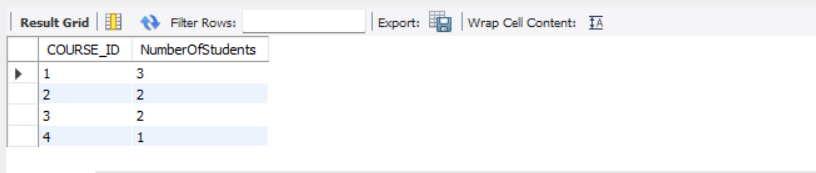
(8, 'Sampada', 'Margaj', '8542598575', 78, 1);



SELECT COURSE\_ID, COUNT(STUDENT\_ID) AS NumberOfStudents

FROM Student

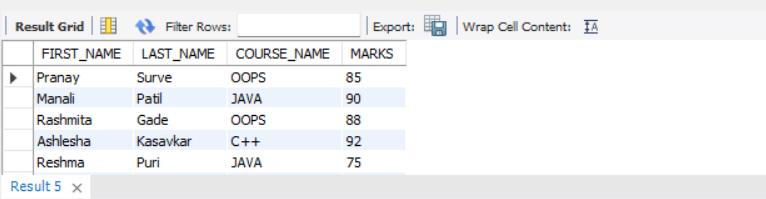
GROUP BY COURSE\_ID;



SELECT s.FIRST\_NAME, s.LAST\_NAME, c.COURSE\_NAME, s.MARKS

FROM Student s

JOIN Course c ON s.COURSE\_ID = c.COURSE\_ID;

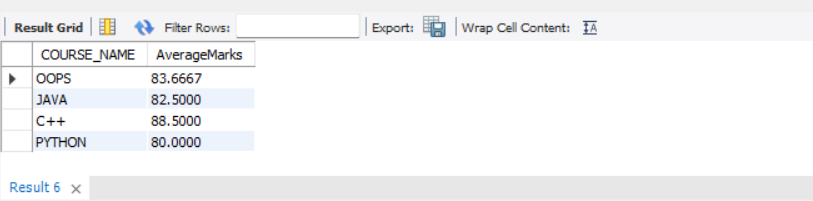


SELECT c.COURSE\_NAME, AVG(s.MARKS) AS AverageMarks

FROM Student s

JOIN Course c ON s.COURSE\_ID = c.COURSE\_ID

GROUP BY c.COURSE\_NAME;



2.  Create database for hospital management system & Perform the following tasks:

a. Create HEALTH CARE WORKERS table with following attributes (EMPLOYEE\_ID , FIRST\_NAME, LAST\_NAME,EMAIL, PHONE\_NUMBER, HIRE\_DATE, SALARY, DESIGNATION).

b. Create PATIENT table with following attributes (PATIENT\_ID,NAME, PHONE\_NUMBER).

c. Write a SQL statement to insert 10 records with your own value into the tables.

d. Write a query to get the names (first\_name, last\_name),Designation, salary.

e. Write a query to get the number of employees with the same Designation

f. Write a query to get employee name who are getting salary more than 25000.

g. Fetch HEALTH CARE WORKERS name using their employee id.

Program :-

CREATE DATABASE hospital\_management;

USE hospital\_management;



CREATE TABLE HEALTH\_CARE\_WORKERS (

EMPLOYEE\_ID INT PRIMARY KEY,

FIRST\_NAME VARCHAR(50),

LAST\_NAME VARCHAR(50),

EMAIL VARCHAR(100),

PHONE\_NUMBER VARCHAR(15),

HIRE\_DATE DATE,

SALARY DECIMAL(10, 2),

DESIGNATION VARCHAR(50)

);



CREATE TABLE PATIENT (

PATIENT\_ID INT PRIMARY KEY,

NAME VARCHAR(100),

PHONE\_NUMBER VARCHAR(15)

);



INSERT INTO HEALTH\_CARE\_WORKERS (EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME, EMAIL, PHONE\_NUMBER, HIRE\_DATE, SALARY, DESIGNATION) VALUES

(1, 'Pranay', 'Surve', 'pranay@gmail.com', '8594752815', '2022-01-01', 30000, 'Doctor'),

(2, 'Manali', 'Patil', 'manali@gmail.com', '7859482582', '2021-05-10', 32000, 'Nurse'),

(3, 'Rashmita', 'Gade', 'rashmita@gmail.com', '9875485895', '2020-02-15', 28000, 'Surgeon'),

(4, 'Ashlesha', 'Kasavkar', 'ashlesha@gmail.com', '9858475859', '2019-07-23', 25000, 'Technician'),

(5, 'Sampada', 'Margaj', 'sampada@gmail.com', '9658754852', '2018-11-11', 26000, 'Pharmacist'),

(6, 'Akshay', 'Barve', 'akshay@gmail.com', '7895485958', '2022-03-30', 27000, 'Doctor'),

(7, 'Mithila', 'Parab', 'mithila@gmail.com', '9858748596', '2021-12-12', 31000, 'Nurse'),

(8, 'Sejal', 'Patel', 'sejal@gmail.com', '9875896587', '2020-09-09', 29000, 'Surgeon'),

(9, 'Swati', 'Parab', 'swati@gmail.com', '7988545895', '2019-06-06', 24000, 'Technician'),

(10, 'Akshata', 'Patil', 'akshata@gmail.com', '9875896547', '2018-03-03', 22000, 'Pharmacist');



INSERT INTO PATIENT (PATIENT\_ID, NAME, PHONE\_NUMBER) VALUES

(1, 'Uday Gurav', '9876543210'),

(2, 'Reshma Dhule', '9876543211'),

(3, 'Akash Thosar', '9876543212'),

(4, 'Rinku Rajguru', '9876543213'),

(5, 'Neeraj Chopra', '9876543214'),

(6, 'Mansi Naik', '9876543215'),

(7, 'Aishwarya Rane', '9876543216'),

(8, 'Sanvi Dalvi', '9876543217'),

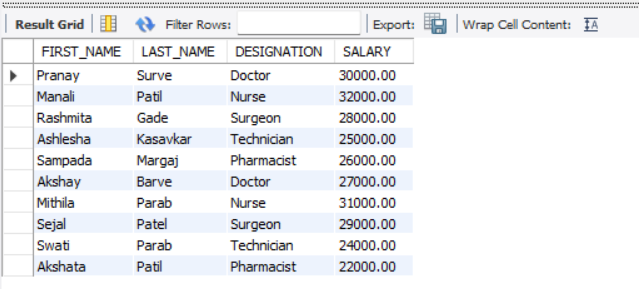
(9, 'Isha Dhoke', '9876543218'),

(10, 'Vanshita Patil', '9876543219');



SELECT FIRST\_NAME, LAST\_NAME, DESIGNATION, SALARY

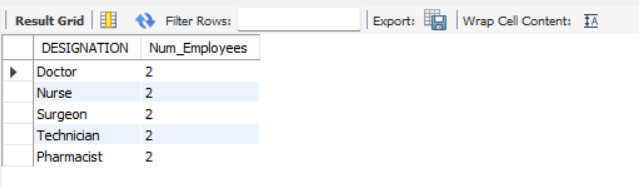
FROM HEALTH\_CARE\_WORKERS;



SELECT DESIGNATION, COUNT(\*) AS Num\_Employees

FROM HEALTH\_CARE\_WORKERS

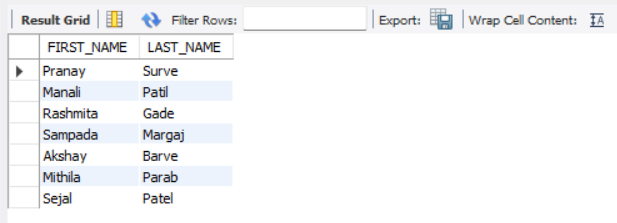
GROUP BY DESIGNATION;



SELECT FIRST\_NAME, LAST\_NAME

FROM HEALTH\_CARE\_WORKERS

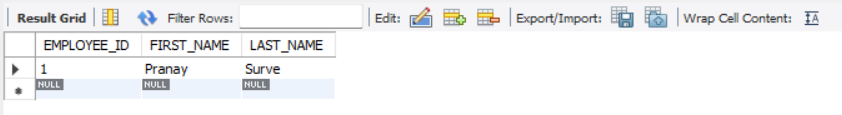
WHERE SALARY > 25000;



SELECT EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME

FROM HEALTH\_CARE\_WORKERS

WHERE EMPLOYEE\_ID = 1;



3.Consider two tables, customers and orders, with the following structures:

Customers Table: customer\_id (Primary Key) first\_name Last\_name

Orders Table: order\_id (Primary Key) customer\_id (Foreign Key) order\_date Total\_amount

Write an SQL query to retrieve the first and last names of customers along with the order date and total amount of their orders.

Use an INNER JOIN to connect the two tables.

Program :-

CREATE DATABASE my\_database;

USE my\_database;



CREATE TABLE customers (

customer\_id INT PRIMARY KEY AUTO\_INCREMENT,

first\_name VARCHAR(50),

last\_name VARCHAR(50)

);



CREATE TABLE orders (

order\_id INT PRIMARY KEY AUTO\_INCREMENT,

customer\_id INT,

order\_date DATE,

total\_amount DECIMAL(10, 2),

FOREIGN KEY (customer\_id) REFERENCES customers(customer\_id)

);



INSERT INTO customers (first\_name, last\_name) VALUES

('Pranay', 'Surve'),

('Manali', 'Patil'),

('Ashlesha', 'Kasavkar');



INSERT INTO orders (customer\_id, order\_date, total\_amount) VALUES

(1, '2024-01-15', 150.00),

(2, '2024-02-20', 200.00),

(3, '2024-03-25', 250.00),

(1, '2024-04-30', 300.00);



SELECT

c.first\_name,

c.last\_name,

o.order\_date,

o.total\_amount

FROM

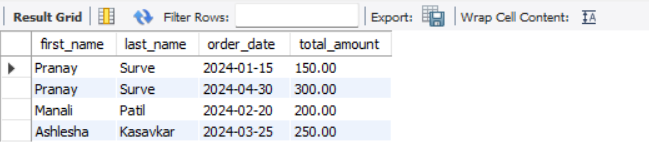
customers c

INNER JOIN

orders o

ON

c.customer\_id = o.customer\_id;



4.Consider two tables, departments and employees, with the following structures:

Departments Table: department\_id (Primary Key) department\_name

Employees Table: employee\_id (Primary Key) first\_name last\_name department\_id (Foreign Key)

Write an SQL query to retrieve a list of all departments and the names of employees who belong to each department. Use a LEFT JOIN to include departments that have no employees.

Program :-

CREATE DATABASE company;

USE company;



CREATE TABLE departments (

department\_id INT PRIMARY KEY,

department\_name VARCHAR(255) NOT NULL

);



CREATE TABLE employees (

employee\_id INT PRIMARY KEY,

first\_name VARCHAR(255) NOT NULL,

last\_name VARCHAR(255) NOT NULL,

department\_id INT,

FOREIGN KEY (department\_id) REFERENCES departments(department\_id)

);



INSERT INTO departments (department\_id, department\_name) VALUES

(1, 'Human Resources'),

(2, 'Finance'),

(3, 'Engineering'),

(4, 'Marketing');



INSERT INTO employees (employee\_id, first\_name, last\_name, department\_id) VALUES

(1, 'Pranay', 'Surve', 1),

(2, 'Manali', 'Patil', 2),

(3, 'Ashlesha', 'Kasavkar', 3),

(4, 'Mithila', 'Parab', 3);



SELECT

d.department\_name,

e.first\_name,

e.last\_name

FROM

departments d

LEFT JOIN

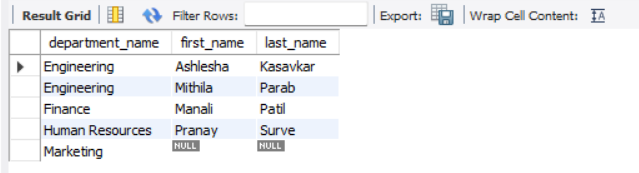
employees e

ON

d.department\_id = e.department\_id

ORDER BY

d.department\_name, e.last\_name, e.first\_name;



5. Write a program to show  JDBC connection with MYSQL and perform the following operations:

Create table Customer with following fields:

Custno, Custame,Custaddress,Phoneno, City, Pincode, Country

Insert 5 records in Customer table.

a.     Insert values

b.    Delete values

c.     update city name Shimla to Shilong.

d.    Show table in the console

Program :-

package com.tut;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

import java.sql.ResultSet;

public class JDBCExample {

// Database credentials

static final String ***url*** = "jdbc:mysql://localhost:3306/JDBCExample"; // replace with your database name

static final String ***user*** = "root"; // replace with your MySQL username

static final String ***password*** = "123456"; // replace with your MySQL password

public static void main(String[] args) {

Connection conn = null;

Statement stmt = null;

ResultSet rs = null;

try {

// Load MySQL JDBC Driver

Class.*forName*("com.mysql.cj.jdbc.Driver");

// Establish connection

conn = DriverManager.*getConnection*(***url***, ***user***, ***password***);

// Create statement object

stmt = conn.createStatement();

// Create Customer table

String createTableSQL = "CREATE TABLE Customer ("

+ "Custno INT, "

+ "Custname VARCHAR(50), "

+ "Custaddress VARCHAR(100), "

+ "Phoneno VARCHAR(15), "

+ "City VARCHAR(50), "

+ "Pincode VARCHAR(10), "

+ "Country VARCHAR(50))";

stmt.executeUpdate(createTableSQL);

// Insert 5 records

String insertSQL = "INSERT INTO Customer VALUES "

+ "(1, 'Pranay Surve', '123 Vileparle', '1234567890', 'Mumbai', '10001', 'India'), "

+ "(2, 'Manali Patil', '456 Virar', '2345678901', 'Kolhapur', '90001', 'India'), "

+ "(3, 'Ashlesha Kasavkar', '789 Thane', '3456789012', 'Pune', '60007', 'India'), "

+ "(4, 'Mithila Parab', '321 Dombivali', '4567890123', 'Nagpur', '77001', 'India'), "

+ "(5, 'Priyanka Pednekar', '654 Borivali', '5678901234', 'Ratnagiri', '85001', 'India')";

stmt.executeUpdate(insertSQL);

// Delete a record

String deleteSQL = "DELETE FROM Customer WHERE Custno = 5";

stmt.executeUpdate(deleteSQL);

// Update city name from Nagpur to Nanded

String updateSQL = "UPDATE Customer SET City = 'Nanded' WHERE City = 'Nagpur'";

stmt.executeUpdate(updateSQL);

// Show table in the console

String selectSQL = "SELECT \* FROM Customer";

rs = stmt.executeQuery(selectSQL);

while (rs.next()) {

System.***out***.println("Custno: " + rs.getInt("Custno") +

", Custname: " + rs.getString("Custname") +

", Custaddress: " + rs.getString("Custaddress") +

", Phoneno: " + rs.getString("Phoneno") +

", City: " + rs.getString("City") +

", Pincode: " + rs.getString("Pincode") +

", Country: " + rs.getString("Country"));

}

} catch (Exception e) {

e.printStackTrace();

} finally {

// Close resources

try {

if (rs != null) rs.close();

if (stmt != null) stmt.close();

if (conn != null) conn.close();

} catch (Exception e) {

e.printStackTrace();

}

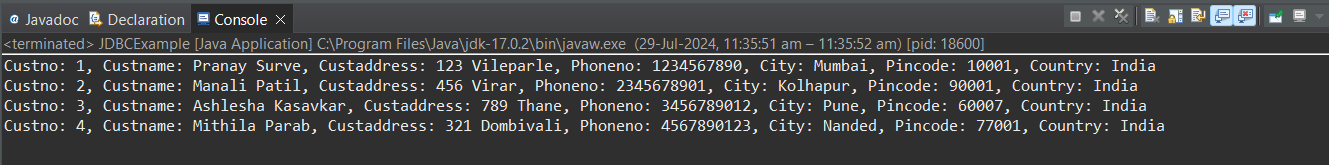
}

}

}

Output :-

Console Outpur :



DB Output :

