DBMS Practical 2 - SQL Commands (Joins, Subqueries, Views)

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1. DATABASE AND TABLE CREATION

CREATE DATABASE practical; USE practical;
CREATE TABLE Student (id INT PRIMARY KEY AUTO_INCREMENT, admission_no VARCHAR(45) NOT NULL, first_name VARCHAR(45) NOT NULL, last_name VARCHAR(45) NOT NULL, age INT, city VARCHAR(25) NOT NULL);
CREATE TABLE Fee (admission_no VARCHAR(45) NOT NULL, course VARCHAR(45) NOT NULL, amount_paid INT);

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2. INSERT OPERATIONS

INSERT INTO Student(admission_no, first_name, last_name, age, city) VALUES (1001, 'Shital', 'Gayke', 18, 'Sinnar'), (1002, 'Sakshi', 'More', 19, 'Nashik'), (1003, 'Nidhi', 'Jadhav', 17, 'Nashik'), (1004, 'Ajay', 'Mendade', 18, 'Satpur'), (1005, 'Prashant', 'More', 19, 'Wani'), (1006, 'Alok', 'Pandit', 18, 'Nashik'), (1007, 'Sanju', 'Banka', 18, 'Bhagur');
INSERT INTO Fee(admission_no, course, amount_paid) VALUES (1001, 'Android', 10000), (1002, 'Data Science', 15000), (1003, 'SQL', 18000), (1004, 'Python', 20000), (1005, 'Java', 8000), (1010, 'Machine Learning', 25000), (1011, 'Cyber Security', 22000);

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3. JOIN COMMANDS

SELECT s.admission_no, s.first_name, s.last_name, f.course, f.amount_paid FROM Student s INNER JOIN Fee f ON s.admission_no = f.admission_no;
SELECT s.admission_no, s.first_name, s.last_name, f.course, f.amount_paid FROM Student s LEFT JOIN Fee f ON s.admission_no = f.admission_no;
SELECT s.admission_no, s.first_name, s.last_name, f.course, f.amount_paid FROM Student s RIGHT JOIN Fee f ON s.admission_no = f.admission_no;
SELECT s.admission_no, s.first_name, s.last_name, f.course, f.amount_paid FROM Student s LEFT JOIN Fee f ON s.admission_no = f.admission_no UNION SELECT s.admission_no,

s.first_name, s.last_name, f.course, f.amount_paid FROM Student s RIGHT JOIN Fee f ON s.admission_no = f.admission_no;

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4. SUBQUERY COMMANDS

SELECT * FROM Fee WHERE amount_paid = (SELECT MIN(amount_paid) FROM Fee);
SELECT * FROM Fee WHERE amount_paid > (SELECT AVG(amount_paid) FROM Fee);
SELECT first_name, city FROM Student WHERE admission_no IN (SELECT admission_no FROM Fee WHERE amount_paid > 15000);

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5. VIEW COMMANDS

CREATE VIEW student_fee_view AS SELECT s.first_name, s.city, f.course, f.amount_paid FROM Student s JOIN Fee f ON s.admission_no = f.admission_no;
CREATE VIEW nashik_students AS SELECT first_name, city FROM Student WHERE city = 'Nashik';
CREATE VIEW high_payers AS SELECT f.course, f.amount_paid FROM Fee f WHERE f.amount_paid > 15000;
SELECT * FROM student_fee_view; SELECT * FROM nashik_students; SELECT * FROM high_payers;
DROP VIEW student_fee_view; DROP VIEW nashik_students; DROP VIEW high_payers;