**TASK 2 – OUTPUT SCEENSHOTS**

**-- 1. Database Setup**

-- Create the student\_table

CREATE TABLE student\_table (

student\_id SERIAL PRIMARY KEY,

stu\_name TEXT,

department TEXT,

email\_id TEXT,

phone\_no NUMERIC,

address TEXT,

date\_of\_birth DATE,

gender TEXT,

major TEXT,

gpa NUMERIC,

grade TEXT

);

**-- 2. Data Entry**

-- Insert 10 sample records into student\_table

INSERT INTO student\_table (stu\_name, department, email\_id, phone\_no, address, date\_of\_birth, gender, major, gpa, grade)

VALUES

('Rahul Verma', 'Computer Science', 'rahul.verma@email.com', '9876543210', '123 Main St, Delhi', '1998-08-15', 'Male', 'Computer Science', 3.8, 'B'),

('Priya Patel', 'Mathematics', 'priya.patel@email.com', '9988776655', '456 Elm St, Mumbai', '1999-04-22', 'Female', 'Mathematics', 4.0, 'A'),

('Amit Kumar', 'History', 'amit.kumar@email.com', '9876541230', '789 Oak St, Kolkata', '1997-11-05', 'Male', 'History', 3.5, 'B'),

('Sneha Gupta', 'Physics', 'sneha.gupta@email.com', '9876549876', '321 Cedar St, Chennai', '1999-03-14', 'Female', 'Physics', 4.2, 'A'),

('Vikas Sharma', 'Chemistry', 'vikas.sharma@email.com', '7890123456', '456 Oak St, Bangalore', '1998-05-27', 'Male', 'Chemistry', 3.3, 'B'),

('Anjali Singh', 'Economics', 'anjali.singh@email.com', '7890123000', '123 Elm St, Mumbai', '2000-01-08', 'Female', 'Economics', 3.9, 'A'),

('Rohit Verma', 'Political Science', 'rohit.verma@email.com', '9876545678', '456 Pine St, Delhi', '1996-09-18', 'Male', 'Political Science', 3.7, 'B'),

('Kavita Gupta', 'Engineering', 'kavita.gupta@email.com', '7890012345', '234 Maple St, Bangalore', '1997-06-30', 'Female', 'Mechanical Engineering', 3.5, 'B'),

('Sanjay Patel', 'Business Administration', 'sanjay.patel@email.com', '9988776655', '567 Cedar St, Mumbai', '1999-12-10', 'Male', 'Business Administration', 3.8, 'A'),

('Sarika Sharma', 'Psychology', 'sarika.sharma@email.com', '9876541230', '345 Oak St, Kolkata', '1998-04-02', 'Female', 'Psychology', 4.1, 'A');

**-- 3. Student Information Retrieval**

-- Retrieve all students' information and sort by grade in descending order

SELECT \* FROM student\_table ORDER BY grade DESC;

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**-- 4. Query for Male Students**

**-- Retrieve information about all male students**

SELECT \* FROM student\_table WHERE gender = 'Male';

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**-- 5. Query for Students with GPA less than 5.0**

**-- Fetch details of students with GPA less than 5.0**

SELECT \* FROM student\_table WHERE gpa < 5.0;

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**-- 6. Update Student Email and Grade**

**-- Update email and grade for a specific student (e.g., student with student\_id 1)**

UPDATE student\_table

SET email\_id = 'newemail@email.com', grade = 'A'

WHERE student\_id = 1;

**-- 7. Query for Students with Grade "B"**

**-- Retrieve names and ages of students with grade "B"**

SELECT stu\_name, EXTRACT(YEAR FROM age(date\_of\_birth)) AS age

FROM student\_table

WHERE grade = 'B';

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**-- 8. Grouping and Calculation**

**-- Group by Department and Gender, calculate average GPA**

SELECT department, gender, AVG(gpa) AS average\_gpa

FROM student\_table

GROUP BY department, gender;

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**-- 9. Table Renaming**

**-- Rename the student\_table to student\_info**

ALTER TABLE student\_table RENAME TO student\_info;

**-- 10. Retrieve Student with Highest GPA**

**-- Retrieve the name of the student with the highest GPA**

SELECT stu\_name

FROM student\_info

WHERE gpa = (SELECT MAX(gpa) FROM student\_info);

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