**Project Title: Academic Management System (using SQL)**

1. Database Creation:

a) Create the StudentInfo table with columns STU\_ ID, STU\_NAME, DOB, PHONE\_NO, EMAIL\_ID,ADDRESS.

CREATE TABLE StudentInfo (STU\_ID INT PRIMARY KEY,  
STU\_NAME VARCHAR(100),  
DOB DATE,  
PHONE\_NO VARCHAR(20),  
EMAIL\_ID VARCHAR(100),  
ADDRESS VARCHAR(255));

b) Create the CoursesInfo table with columns COURSE\_ID, COURSE\_NAME,COURSE\_INSTRUCTOR NAME.

CREATE TABLE CoursesInfo (COURSE\_ID INT PRIMARY KEY,  
COURSE\_NAME VARCHAR(100),  
COURSE\_INSTRUCTOR\_NAME VARCHAR(100));

c) Create the EnrollmentInfo with columns ENROLLMENT\_ID, STU\_ ID, COURSE\_ID, ENROLL\_STATUS(Enrolled/Not Enrolled). The FOREIGN KEY constraint in the EnrollmentInfo table references the STU\_ID column in the StudentInfo table and the COURSE\_ID column in the CoursesInfo table.

CREATE TABLE EnrollmentInfo (ENROLLMENT\_ID INT PRIMARY KEY,  
STU\_ID INT,  
COURSE\_ID INT,  
ENROLL\_STATUS VARCHAR(20),  
FOREIGN KEY (STU\_ID) REFERENCES StudentInfo(STU\_ID),  
FOREIGN KEY (COURSE\_ID) REFERENCES CoursesInfo(COURSE\_ID));

2. Data Creation: Insert some sample data for StudentInfo table , CoursesInfo table, EnrollmentInfo with respective fields.

INSERT INTO StudentInfo (STU\_ID, STU\_NAME, DOB, PHONE\_NO, EMAIL\_ID, ADDRESS)

VALUES (1, 'Will Smith', '2000-01-01', '1234567890', 'will.smith@email.com', '543 Ricky St'),  
(2, 'Jane Smith', '2001-02-02', '9876543210', ' jk.rowling@email.com', '189 Rocky St');

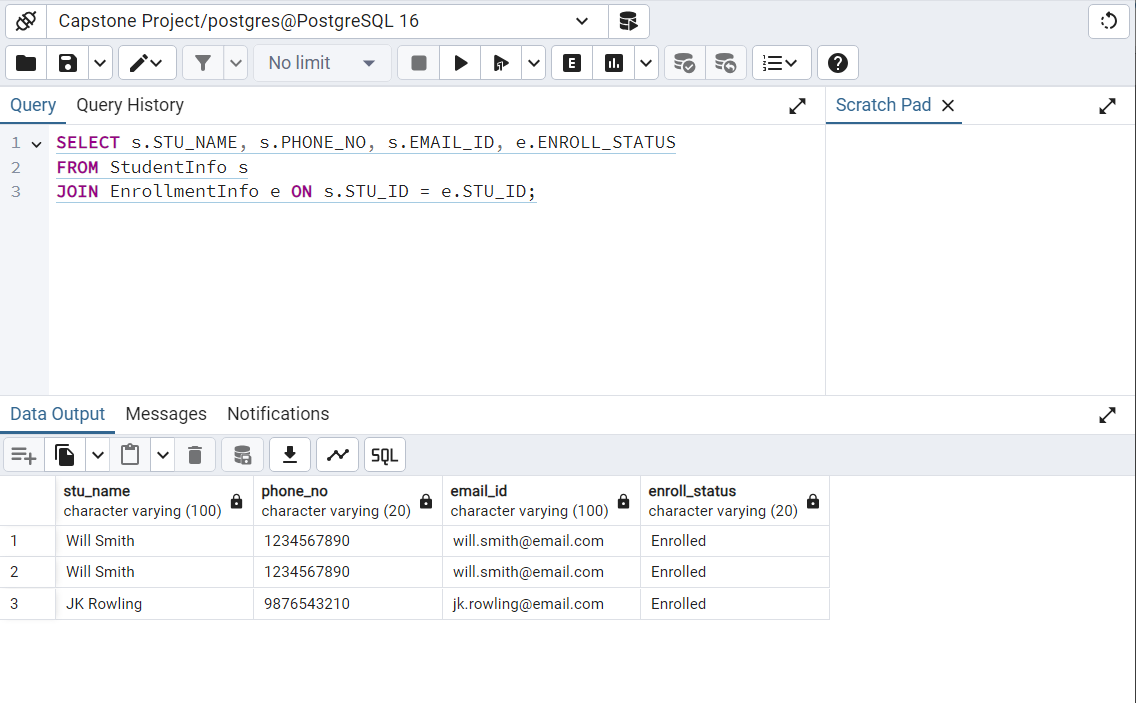
INSERT INTO CoursesInfo (COURSE\_ID, COURSE\_NAME, COURSE\_INSTRUCTOR\_NAME)  
VALUES (101, 'Mathematics', 'James'),  
(102, 'Computer Science', 'Josesph');

INSERT INTO EnrollmentInfo (ENROLLMENT\_ID, STU\_ID, COURSE\_ID, ENROLL\_STATUS)  
VALUES (1, 1, 101, 'Enrolled'),  
(2, 1, 102, 'Enrolled'),  
(3, 2, 101, 'Enrolled');

3) Retrieve the Student Information

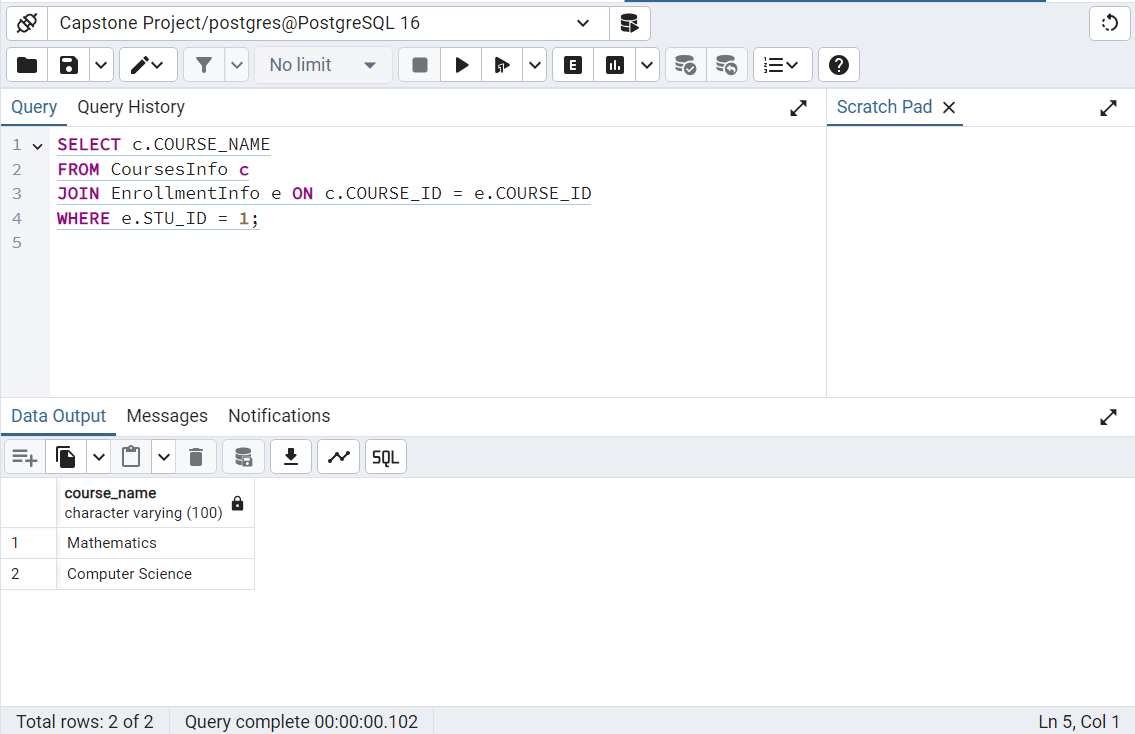
a) Write a query to retrieve student details, such as student name, contact informations, and Enrollment status.

SELECT s.STU\_NAME, s.PHONE\_NO, s.EMAIL\_ID, e.ENROLL\_STATUS  
FROM StudentInfo s  
JOIN EnrollmentInfo e ON s.STU\_ID = e.STU\_ID;



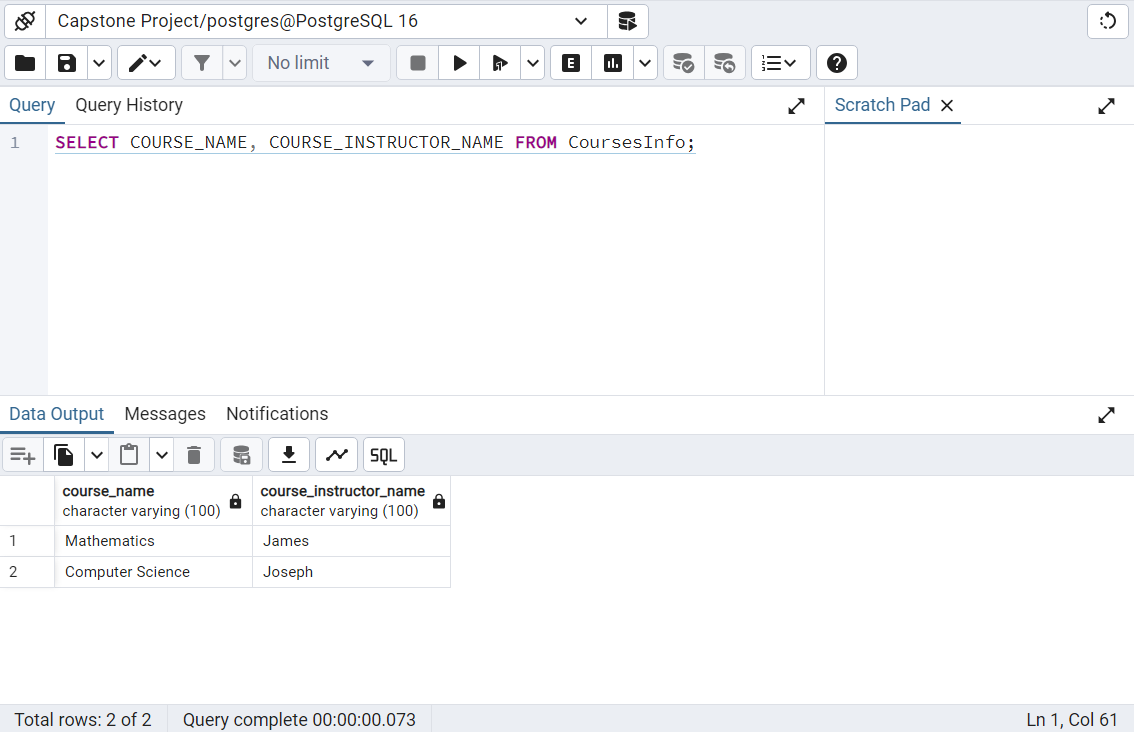
b) Write a query to retrieve a list of courses in which a specific student is enrolled.

SELECT c.COURSE\_NAME  
FROM CoursesInfo c  
JOIN EnrollmentInfo e ON c.COURSE\_ID = e.COURSE\_ID  
WHERE e.STU\_ID = 1;



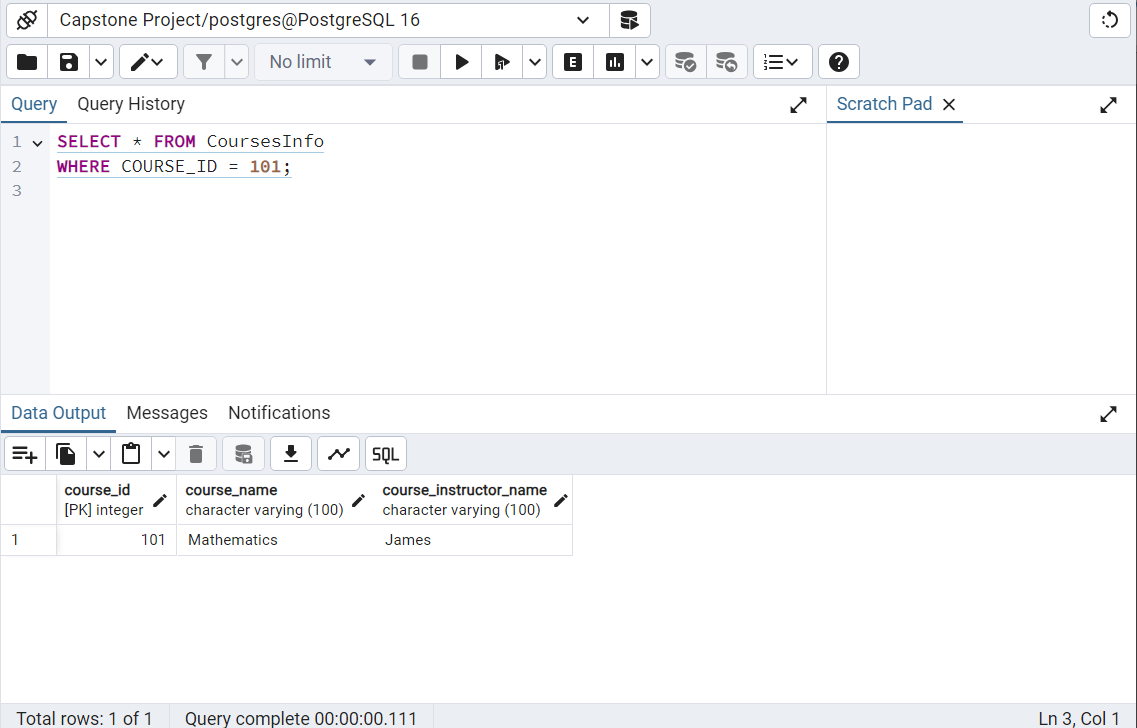
c) Write a query to retrieve course information, including course name, instructor information.

SELECT COURSE\_NAME, COURSE\_INSTRUCTOR\_NAME FROM CoursesInfo;



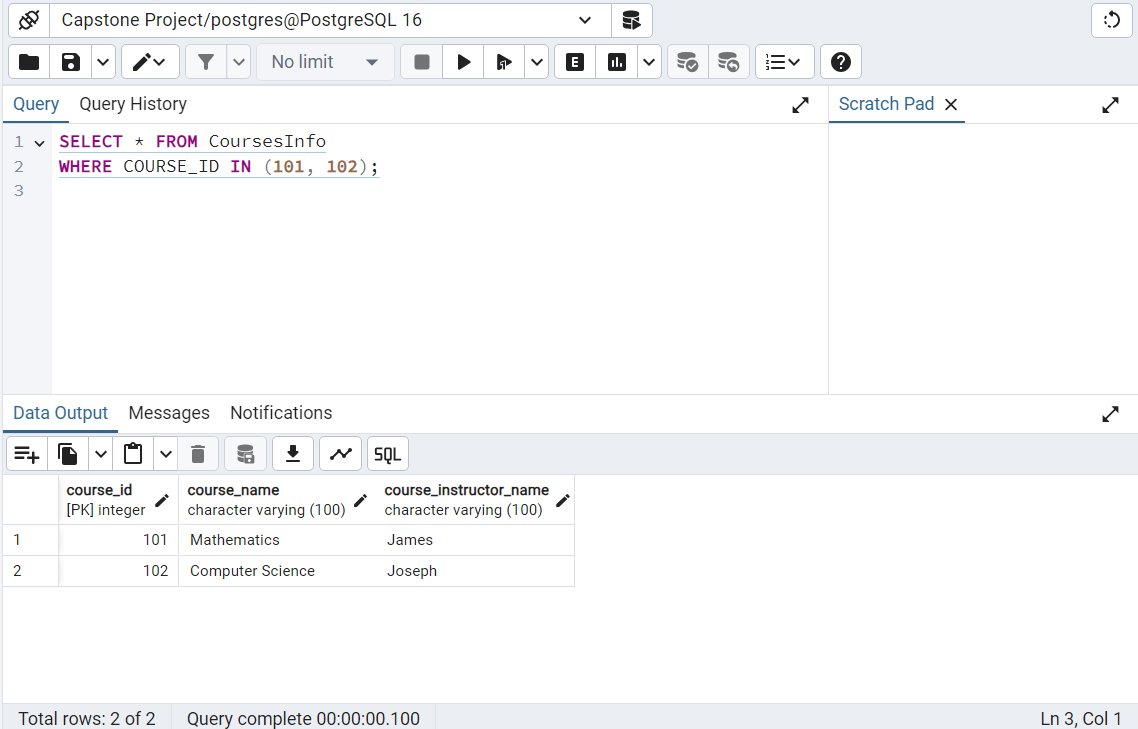
d) Write a query to retrieve course information for a specific course.

SELECT \* FROM CoursesInfo  
WHERE COURSE\_ID = 101;



e) Write a query to retrieve course information for multiple courses.

SELECT \* FROM CoursesInfo  
WHERE COURSE\_ID IN (101, 102);

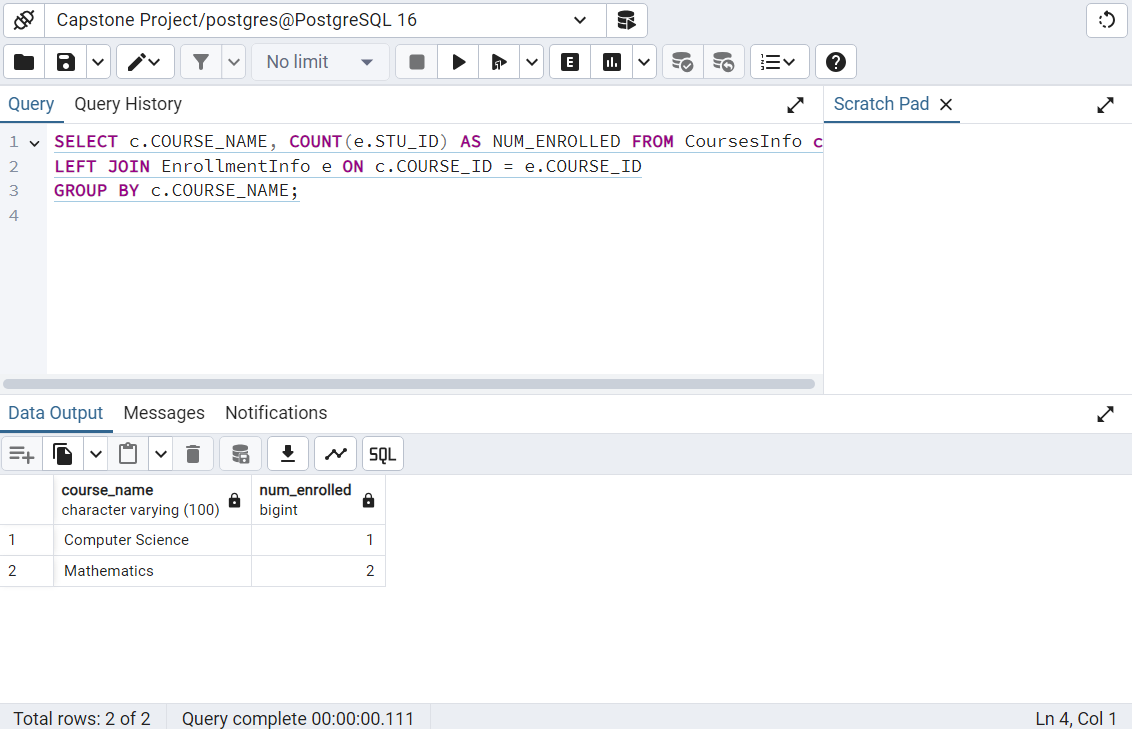


f) Test the queries to ensure accurate retrieval of student information.( execute the queries and verify the results against the expected output.)

4. Reporting and Analytics (Using joining queries)

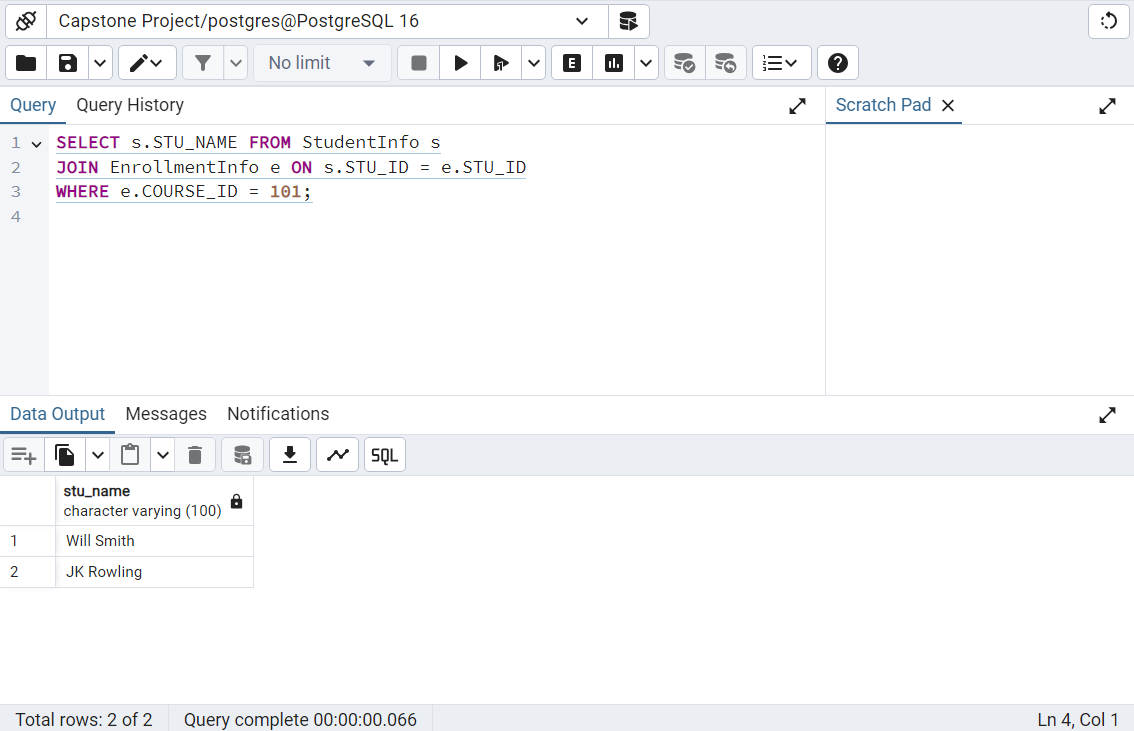
a) Write a query to retrieve the number of students enrolled in each course

SELECT c.COURSE\_NAME, COUNT(e.STU\_ID) AS NUM\_ENROLLED FROM CoursesInfo c  
LEFT JOIN EnrollmentInfo e ON c.COURSE\_ID = e.COURSE\_ID  
GROUP BY c.COURSE\_NAME;



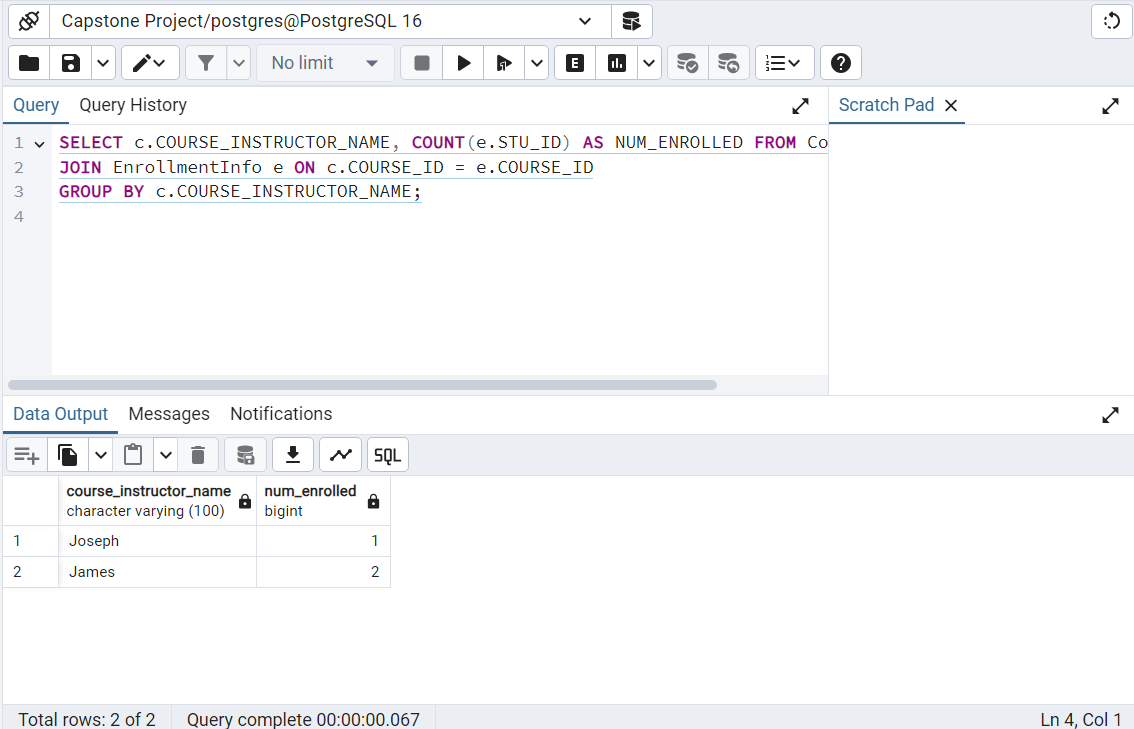
b) Write a query to retrieve the list of students enrolled in a specific course

SELECT s.STU\_NAME FROM StudentInfo s  
JOIN EnrollmentInfo e ON s.STU\_ID = e.STU\_ID  
WHERE e.COURSE\_ID = 101;



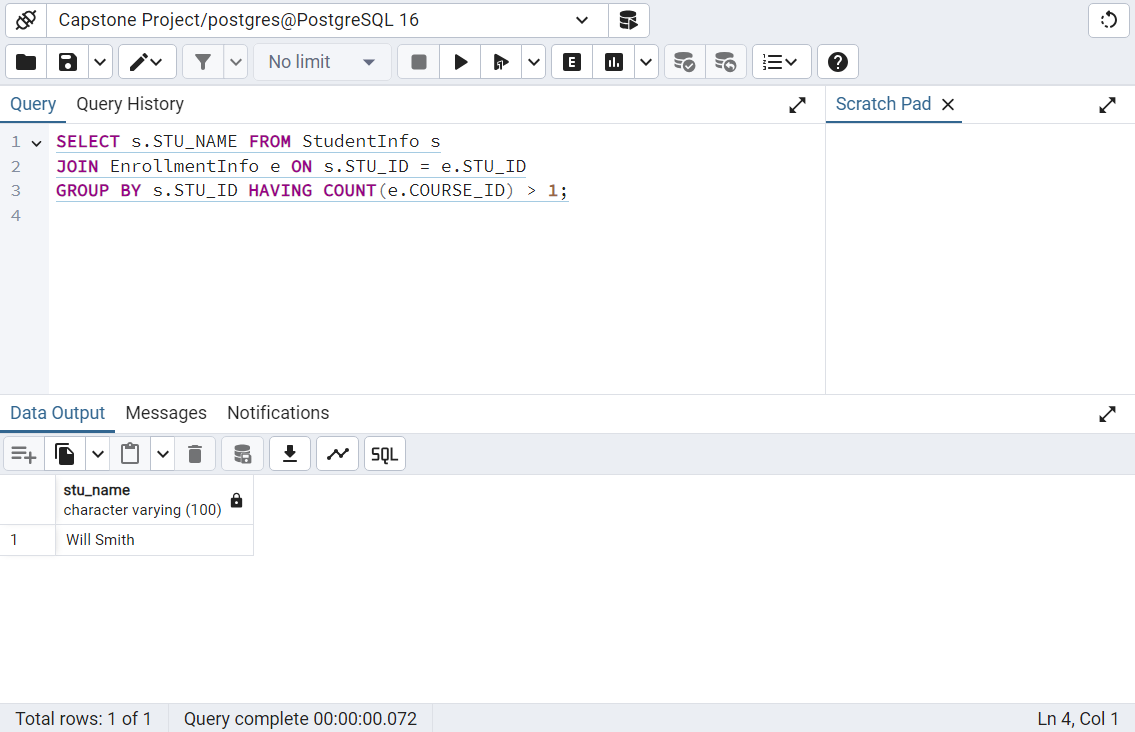
c) Write a query to retrieve the count of enrolled students for each instructor

SELECT c.COURSE\_INSTRUCTOR\_NAME, COUNT(e.STU\_ID) AS NUM\_ENROLLED FROM CoursesInfo c  
JOIN EnrollmentInfo e ON c.COURSE\_ID = e.COURSE\_ID  
GROUP BY c.COURSE\_INSTRUCTOR\_NAME;



d) Write a query to retrieve the list of students who are enrolled in multiple courses

SELECT s.STU\_NAME FROM StudentInfo s  
JOIN EnrollmentInfo e ON s.STU\_ID = e.STU\_ID  
GROUP BY s.STU\_ID HAVING COUNT(e.COURSE\_ID) > 1;



e) Write a query to retrieve the courses that have the highest number of enrolled students(arranging from highest to lowest)

SELECT c.COURSE\_NAME, COUNT(e.STU\_ID) AS NUM\_ENROLLED FROM CoursesInfo c  
JOIN EnrollmentInfo e ON c.COURSE\_ID = e.COURSE\_ID  
GROUP BY c.COURSE\_NAME ORDER BY NUM\_ENROLLED DESC;

