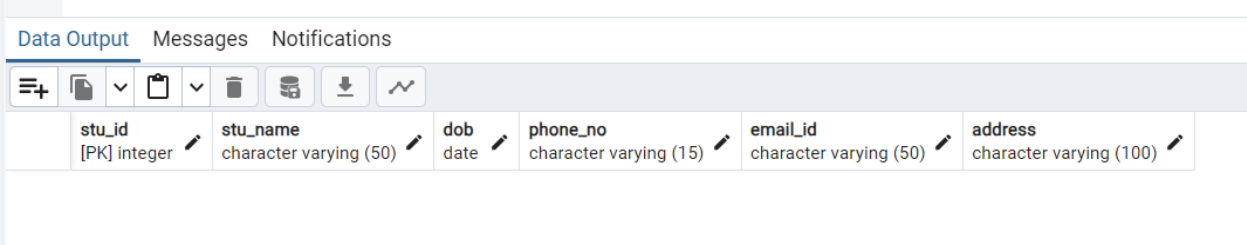
Task1

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

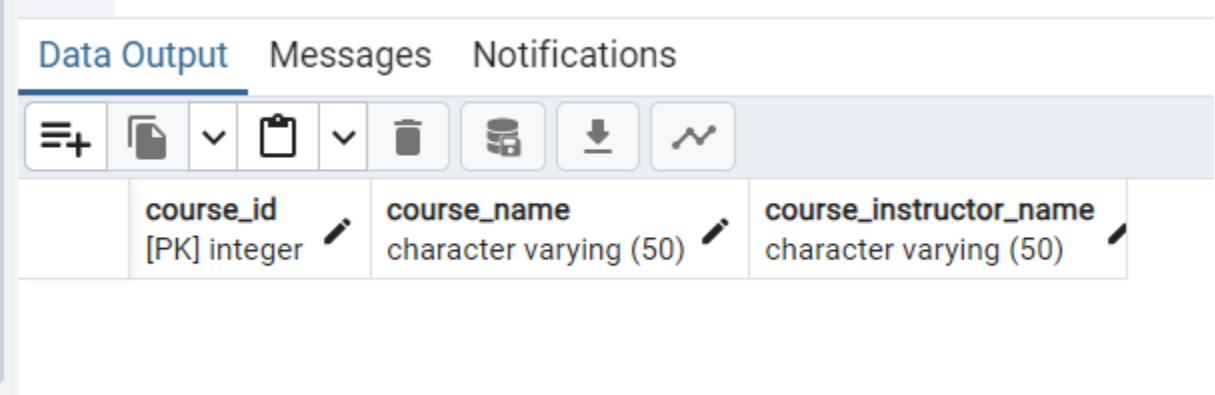
Design and develop an Academic Management System using SQL. The projects should involve three tables 1.StudentInfo 2. CoursesInfo 3.EnrollmentInfo. The Aim is to create a system that allows for managing student information and course enrollment. The project will include the following tasks:

1. Database Creation:

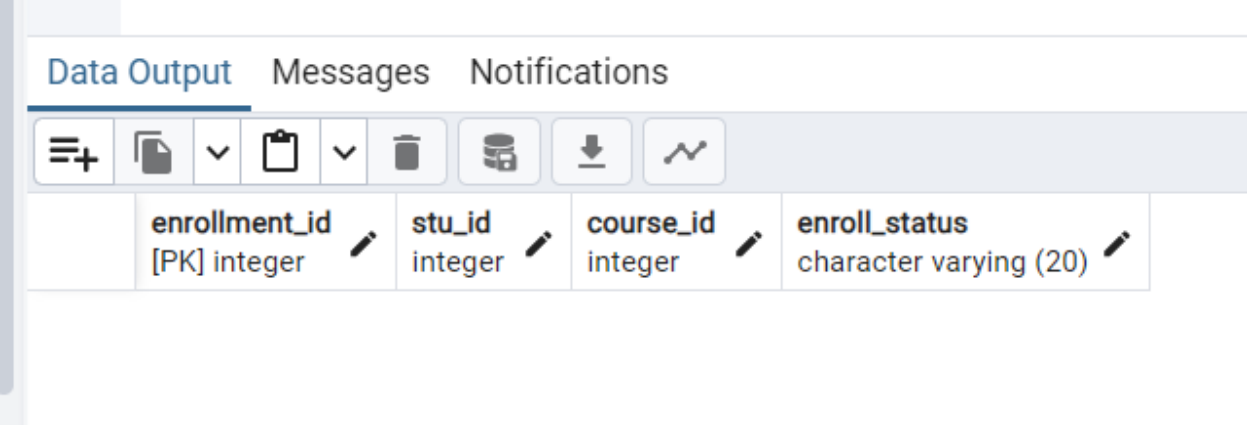
a) Create the StudentInfo table with columns STU_ ID, STU_NAME, DOB, PHONE_NO, EMAIL_ID,ADDRESS.



b) Create the CoursesInfo table with columns COURSE_ID, COURSE_NAME,COURSE_INSTRUCTOR NAME.



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.

2. Data Creation:

Insert some sample data for StudentInfo table , CoursesInfo table, EnrollmentInfo with respective fields.

StudentInfo table

Data Output Messages Notifications

	stu_id [PK] integer	stu_name character varying (50)	dob date	phone_no character varying (15)	email_id character varying (50)	address character varying (100)
1	1	Karthick	2000-01-01	1234567890	karthick@example.com	123 Chennai
2	2	Aishwarya	1998-05-15	9876543210	aishwarya@example.com	456 Anna Nagar
3	3	Athish Vikram	1999-03-12	1122334455	athishVikram@example.com	789 Airport
4	4	Abdul	1997-07-21	5566778899	abdul@example.com	321 Perungudi
5	5	Shaji	2001-02-10	9988776655	shaji@example.com	654 Padur
6	6	Rangaraj	1996-11-05	4433221100	rangaraj@example.com	987 Adyar
7	7	Archana	2002-06-18	7766554433	archana@example.com	111 Mylapore
8	8	Subash	1995-04-25	2233445566	subash@example.com	222 Perambur

CoursesInfo table

Data Output Messages Notifications

	course_id [PK] integer	course_name character varying (50)	course_instructor_name character varying (50)
1	101	Mathematics	John
2	102	Physics	Saran
3	103	Chemistry	Saranya
4	104	Biology	Anish
5	105	Computer Science	Manish
6	106	English Literature	Sethu
7	107	History	Srinivasan
8	108	Philosophy	SanjeevRA

EnrollmentInfo

Data Output | Messages | Notifications

	enrollment_id [PK] integer	stu_id integer	course_id integer	enroll_status character varying (20)
1	1	1	101	Enrolled
2	2	1	102	Enrolled
3	3	2	103	Enrolled
4	4	3	104	Enrolled
5	5	4	105	Not Enrolled
6	6	5	106	Enrolled
7	7	6	107	Enrolled
8	8	7	108	Not Enrolled
9	9	8	101	Enrolled
10	10	4	102	Enrolled
11	11	3	103	Not Enrolled
12	12	6	104	Enrolled

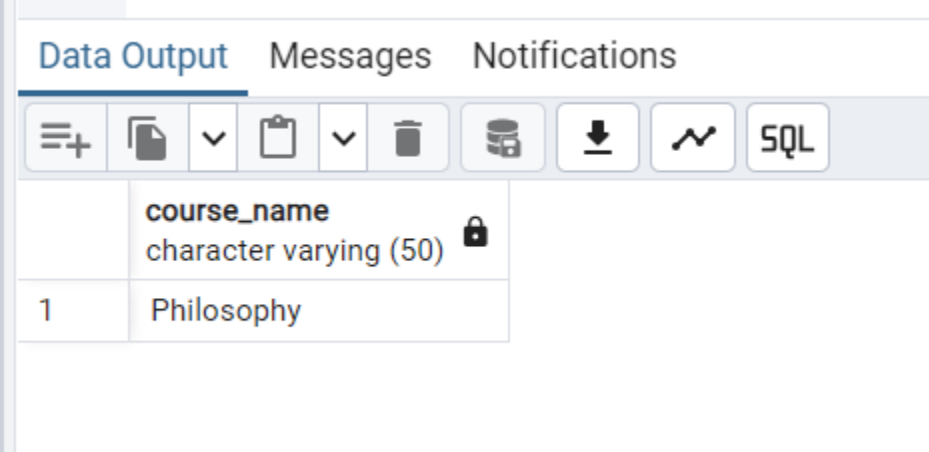
3) Retrieve the Student Information

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

Data Output | Messages | Notifications

	stu_name character varying (50)	phone_no character varying (15)	email_id character varying (50)	enroll_status character varying (20)
1	Karthick	1234567890	karthick@example.com	Enrolled
2	Karthick	1234567890	karthick@example.com	Enrolled
3	Aishwarya	9876543210	aishwarya@example.com	Enrolled
4	Athish Vikram	1122334455	athishVikram@example.com	Enrolled
5	Abdul	5566778899	abdul@example.com	Not Enrolled
6	Shaji	9988776655	shaji@example.com	Enrolled
7	Rangaraj	4433221100	rangaraj@example.com	Enrolled
8	Archana	7766554433	archana@example.com	Not Enrolled
9	Subash	2233445566	subash@example.com	Enrolled
10	Abdul	5566778899	abdul@example.com	Enrolled
11	Athish Vikram	1122334455	athishVikram@example.com	Not Enrolled
12	Rangaraj	4433221100	rangaraj@example.com	Enrolled

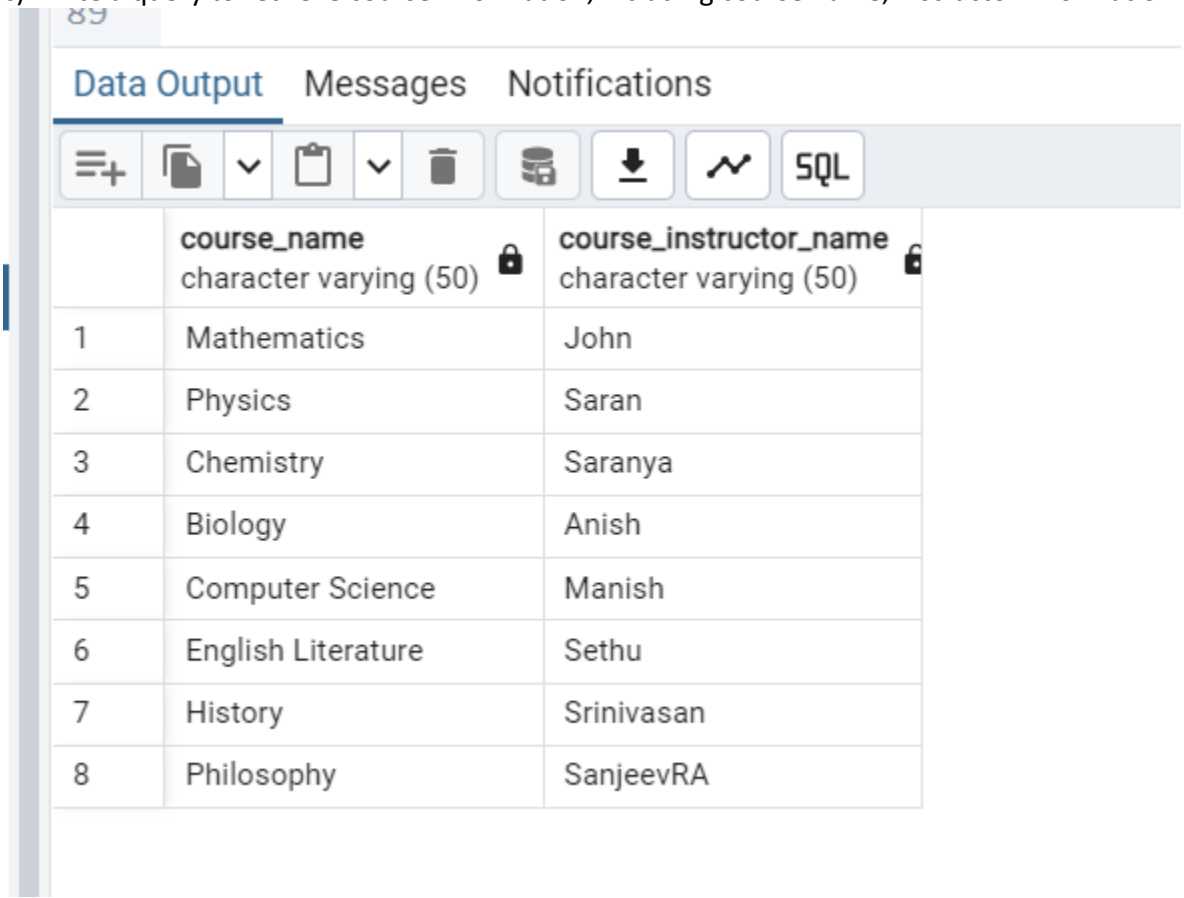
b) Write a query to retrieve a list of courses in which a specific student is enrolled.



Data Output | Messages | Notifications

	course_name character varying (50)
1	Philosophy

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



Data Output | Messages | Notifications

	course_name character varying (50)	course_instructor_name character varying (50)
1	Mathematics	John
2	Physics	Saran
3	Chemistry	Saranya
4	Biology	Anish
5	Computer Science	Manish
6	English Literature	Sethu
7	History	Srinivasan
8	Philosophy	SanjeevRA

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

Data Output | Messages | Notifications

	course_id [PK] integer	course_name character varying (50)	course_instructor_name character varying (50)
1	101	Mathematics	John

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

Data Output | Messages | Notifications

	course_id [PK] integer	course_name character varying (50)	course_instructor_name character varying (50)
1	101	Mathematics	John
2	102	Physics	Saran

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

Data Output | Messages | Notifications

	stu_id integer	stu_name character varying (50)	phone_no character varying (15)	email_id character varying (50)	enroll_status character varying (20)
1	1	Karthick	1234567890	karthick@example.com	Enrolled
2	1	Karthick	1234567890	karthick@example.com	Enrolled
3	2	Aishwarya	9876543210	aishwarya@example.com	Enrolled
4	3	Athish Vikram	1122334455	athishVikram@example.com	Enrolled
5	4	Abdul	5566778899	abdul@example.com	Not Enrolled
6	5	Shaji	9988776655	shaji@example.com	Enrolled
7	6	Rangaraj	4433221100	rangaraj@example.com	Enrolled
8	7	Archana	7766554433	archana@example.com	Not Enrolled
9	8	Subash	2233445566	subash@example.com	Enrolled
10	4	Abdul	5566778899	abdul@example.com	Enrolled
11	3	Athish Vikram	1122334455	athishVikram@example.com	Not Enrolled
12	6	Rangaraj	4433221100	rangaraj@example.com	Enrolled

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Data Output | Messages | Notifications

	stu_id integer	course_name character varying (50)
1	1	Mathematics
2	1	Physics

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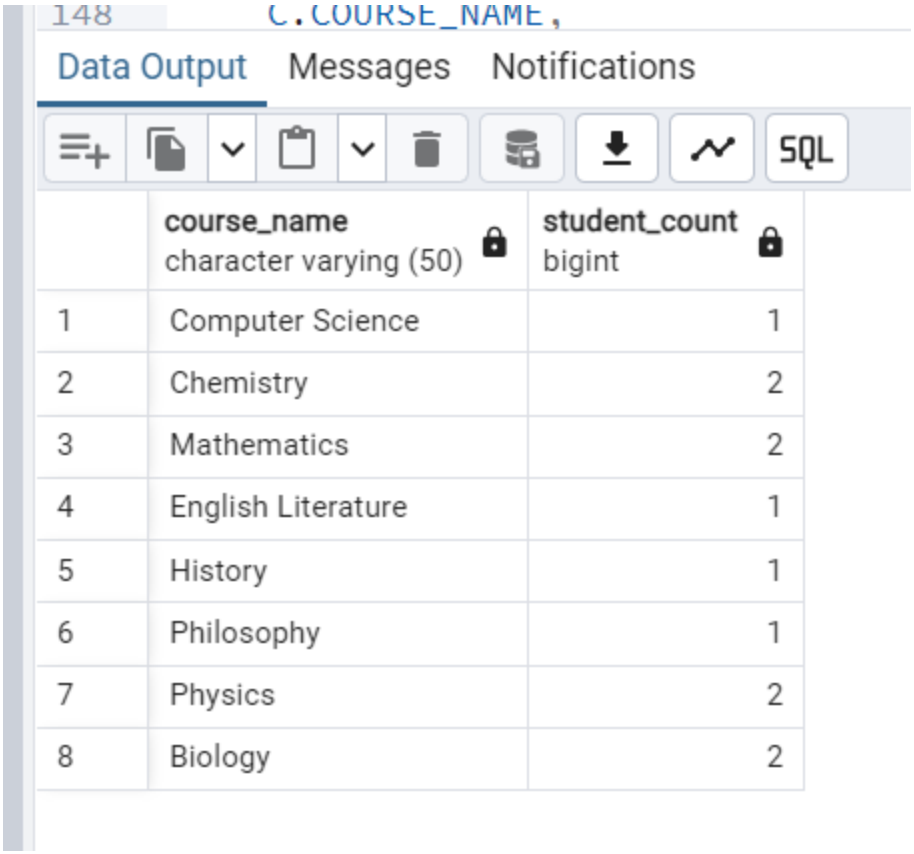
Data Output | Messages | Notifications

	course_id [PK] integer	course_name character varying (50)	course_instructor_name character varying (50)
1	101	Mathematics	John
2	102	Physics	Saran
3	103	Chemistry	Saranya
4	104	Biology	Anish
5	105	Computer Science	Manish
6	106	English Literature	Sethu
7	107	History	Srinivasan
8	108	Philosophy	SanjeevRA



	course_name character varying (50)	student_count bigint
1	Computer Science	1
2	Chemistry	2
3	Mathematics	2
4	English Literature	1
5	History	1
6	Philosophy	1
7	Physics	2
8	Biology	2

4. Reporting and Analytics (Using joining queries)

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

Data Output | Messages | Notifications

SQL

	course_name character varying (50)	student_count bigint
1	Computer Science	1
2	Chemistry	2
3	Mathematics	2
4	English Literature	1
5	History	1
6	Philosophy	1
7	Physics	2
8	Biology	2

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

Data Output | Messages | Notifications

SQL

	stu_name character varying (50)
1	Karthick
2	Subash

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

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Data Output | Messages | Notifications

	course_instructor_name character varying (50)	student_count bigint
1	Saran	2
2	Sethu	1
3	Manish	1
4	SanjeevRA	1
5	Anish	2
6	John	2
7	Srinivasan	1
8	Saranya	2

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

Data Output | Messages | Notifications

	stu_name character varying (50)
1	Abdul
2	Athish Vikram
3	Rangaraj
4	Karthick

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

Data Output | Messages | Notifications

SQL

	course_name character varying (50)	student_count bigint
1	Mathematics	2
2	Chemistry	2
3	Physics	2
4	Biology	2
5	History	1
6	English Literature	1
7	Computer Science	1
8	Philosophy	1