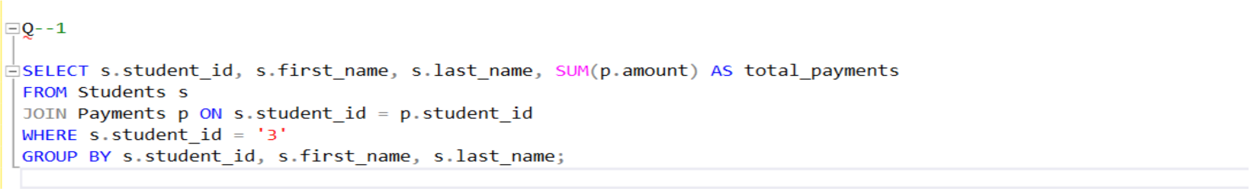
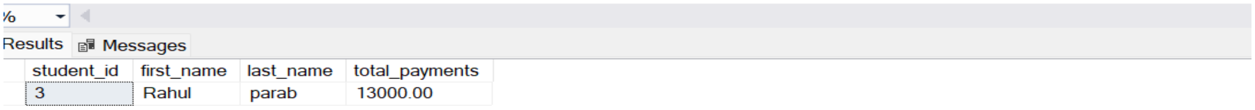
Task 3- Akshay Parab

1 . Write an SQL query to calculate the total payments made by a specific student. You will need to join the "Payments" table with the "Students" table based on the student's ID.



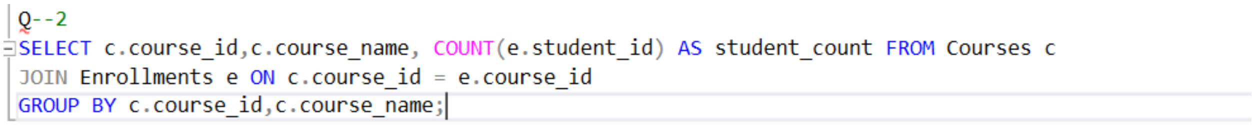
```
Q--1

SELECT s.student_id, s.first_name, s.last_name, SUM(p.amount) AS total_payments
FROM Students s
JOIN Payments p ON s.student_id = p.student_id
WHERE s.student_id = '3'
GROUP BY s.student_id, s.first_name, s.last_name;
```

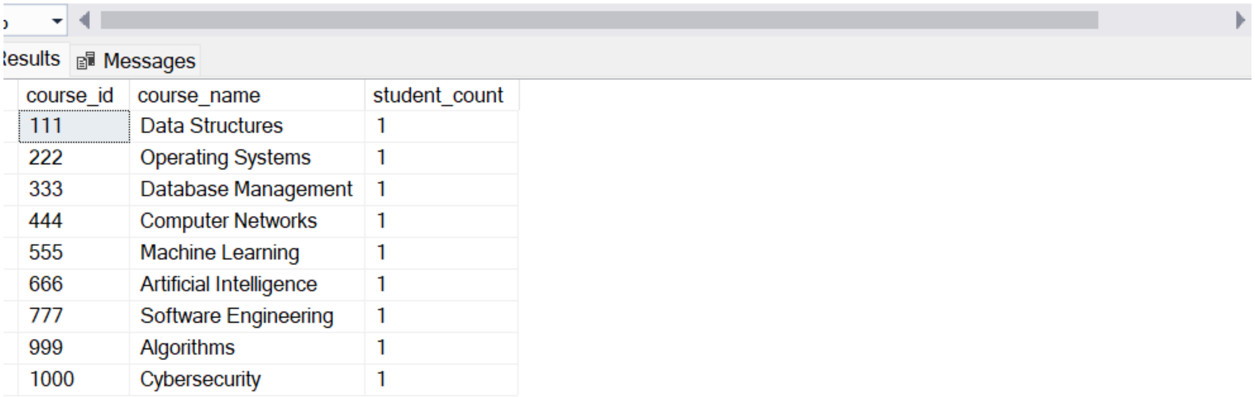


student_id	first_name	last_name	total_payments
3	Rahul	parab	13000.00

2. Write an SQL query to retrieve a list of courses along with the count of students enrolled in each course. Use a JOIN operation between the "Courses" table and the "Enrollments" table.

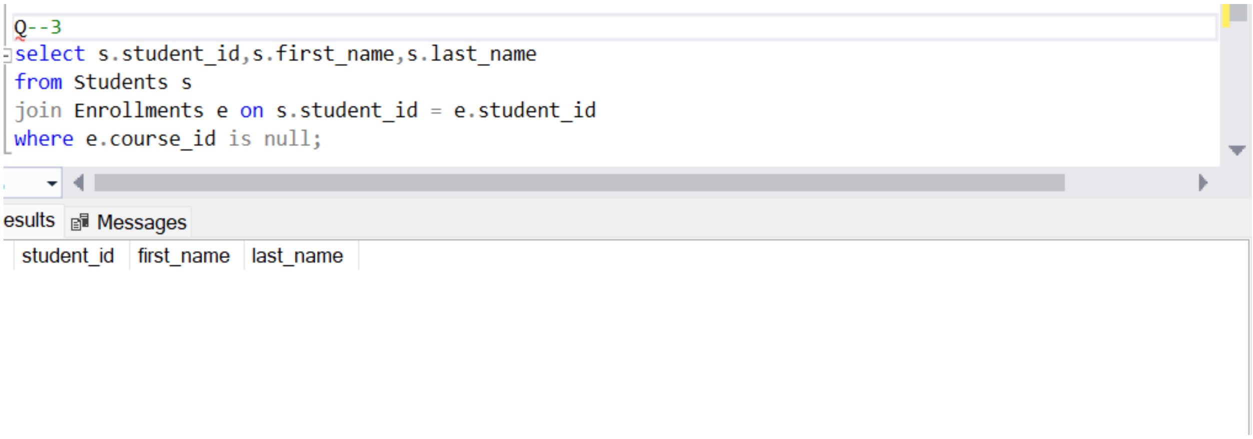


```
Q--2
SELECT c.course_id,c.course_name, COUNT(e.student_id) AS student_count FROM Courses c
JOIN Enrollments e ON c.course_id = e.course_id
GROUP BY c.course_id,c.course_name;
```



course_id	course_name	student_count
111	Data Structures	1
222	Operating Systems	1
333	Database Management	1
444	Computer Networks	1
555	Machine Learning	1
666	Artificial Intelligence	1
777	Software Engineering	1
999	Algorithms	1
1000	Cybersecurity	1

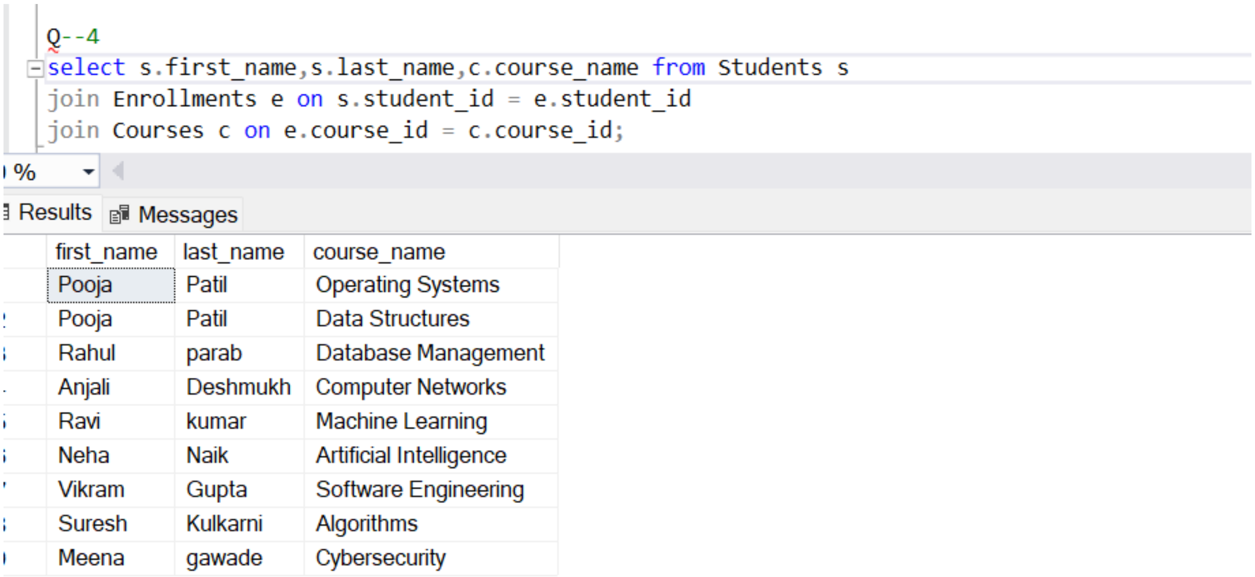
3. Write an SQL query to find the names of students who have not enrolled in any course. Use a LEFT JOIN between the "Students" table and the "Enrollments" table to identify students without enrollments.



```
Q--3
select s.student_id,s.first_name,s.last_name
from Students s
join Enrollments e on s.student_id = e.student_id
where e.course_id is null;
```

student_id	first_name	last_name

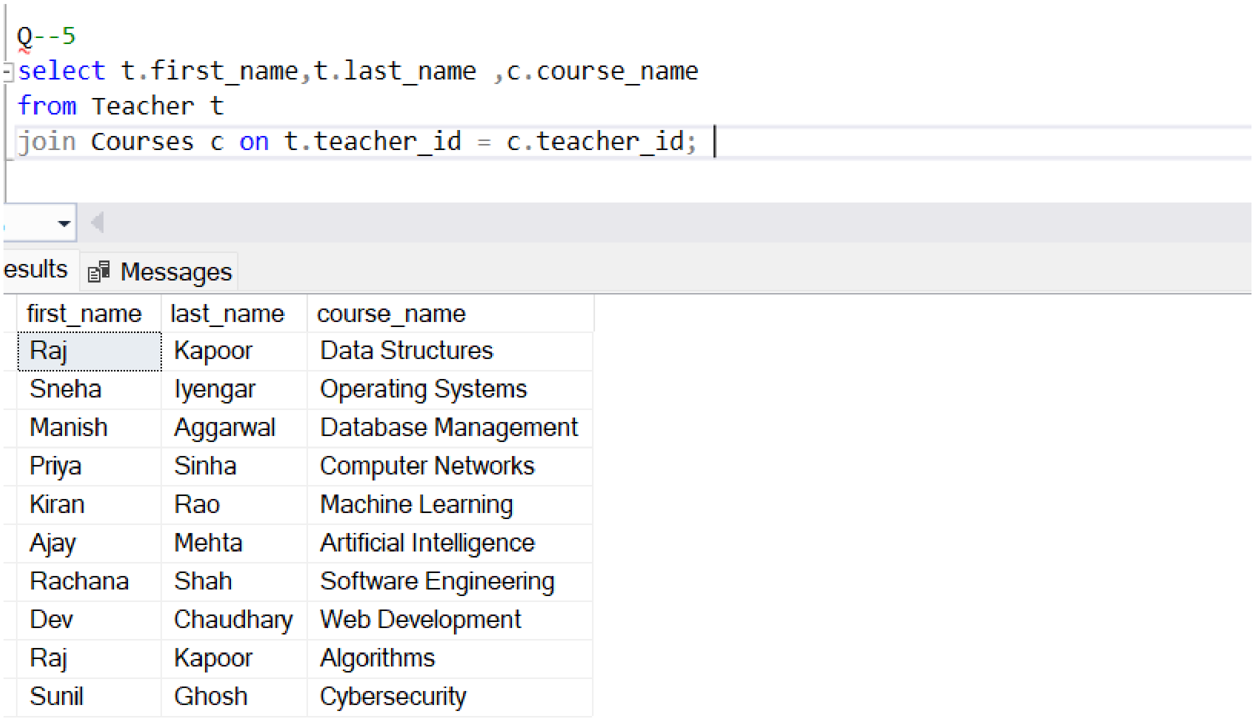
4. Write an SQL query to retrieve the first name, last name of students, and the names of the courses they are enrolled in. Use JOIN operations between the "Students" table and the "Enrollments" and "Courses" tables.



```
Q--4
select s.first_name,s.last_name,c.course_name from Students s
join Enrollments e on s.student_id = e.student_id
join Courses c on e.course_id = c.course_id;
```

first_name	last_name	course_name
Pooja	Patil	Operating Systems
Pooja	Patil	Data Structures
Rahul	parab	Database Management
Anjali	Deshmukh	Computer Networks
Ravi	kumar	Machine Learning
Neha	Naik	Artificial Intelligence
Vikram	Gupta	Software Engineering
Suresh	Kulkarni	Algorithms
Meena	gawade	Cybersecurity

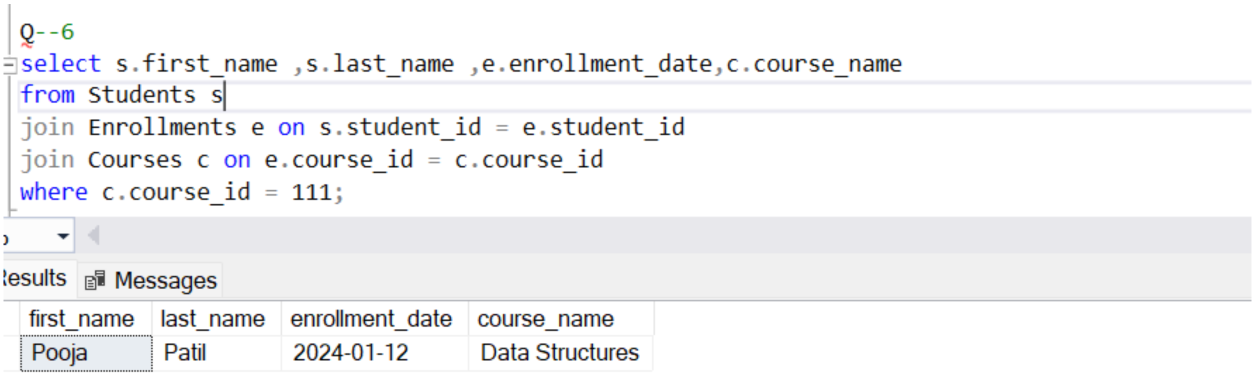
5. Create a query to list the names of teachers and the courses they are assigned to. Join the "Teacher" table with the "Courses" table.



```
Q--5
select t.first_name,t.last_name ,c.course_name
from Teacher t
join Courses c on t.teacher_id = c.teacher_id;
```

first_name	last_name	course_name
Raj	Kapoor	Data Structures
Sneha	Iyengar	Operating Systems
Manish	Aggarwal	Database Management
Priya	Sinha	Computer Networks
Kiran	Rao	Machine Learning
Ajay	Mehta	Artificial Intelligence
Rachana	Shah	Software Engineering
Dev	Chaudhary	Web Development
Raj	Kapoor	Algorithms
Sunil	Ghosh	Cybersecurity

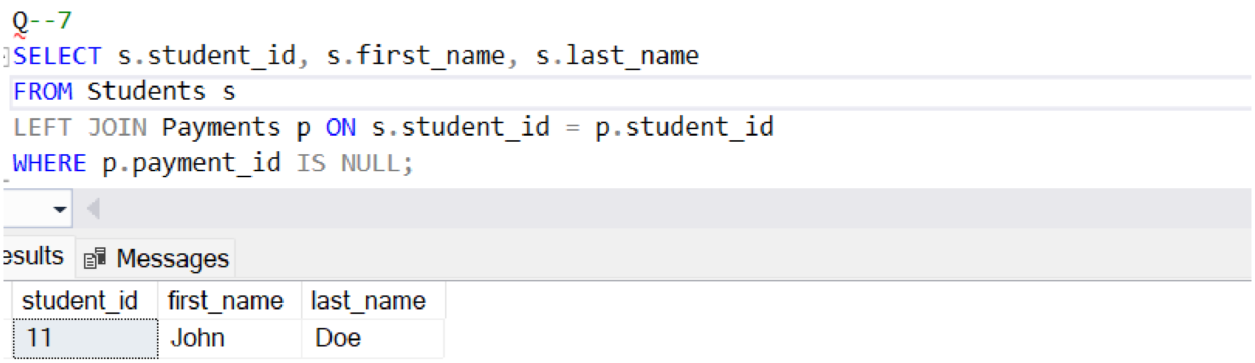
6. Retrieve a list of students and their enrollment dates for a specific course. You'll need to join the "Students" table with the "Enrollments" and "Courses" tables.



```
Q--6
select s.first_name ,s.last_name ,e.enrollment_date,c.course_name
from Students s
join Enrollments e on s.student_id = e.student_id
join Courses c on e.course_id = c.course_id
where c.course_id = 111;
```

first_name	last_name	enrollment_date	course_name
Pooja	Patil	2024-01-12	Data Structures

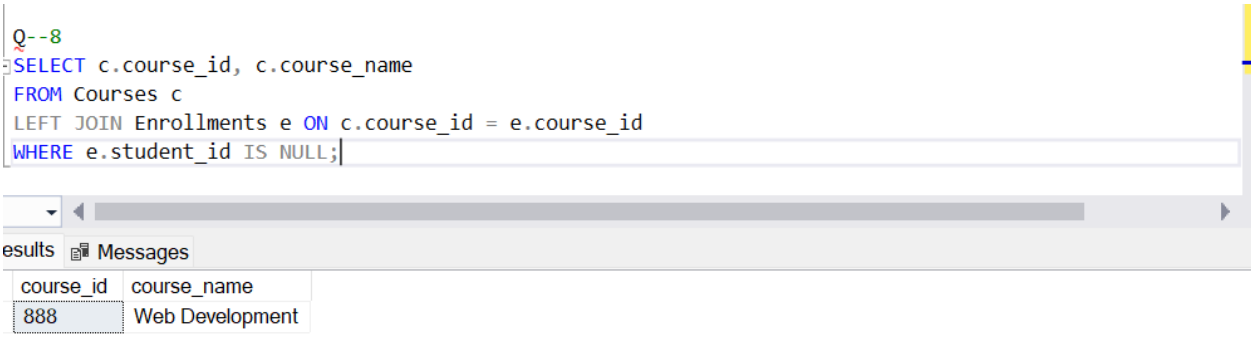
7. Find the names of students who have not made any payments. Use a LEFT JOIN between the "Students" table and the "Payments" table and filter for students with NULL payment records.



```
Q--7
SELECT s.student_id, s.first_name, s.last_name
FROM Students s
LEFT JOIN Payments p ON s.student_id = p.student_id
WHERE p.payment_id IS NULL;
```

student_id	first_name	last_name
11	John	Doe

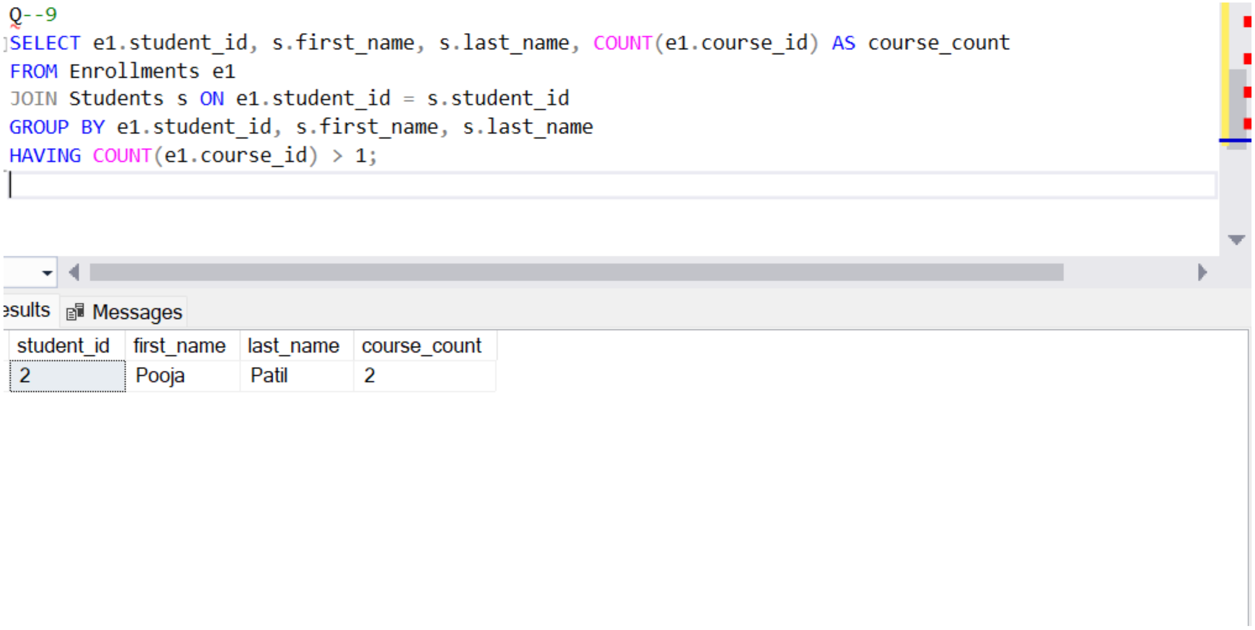
8. Write a query to identify courses that have no enrollments. You'll need to use a LEFT JOIN between the "Courses" table and the "Enrollments" table and filter for courses with NULL enrollment records.



```
Q--8
SELECT c.course_id, c.course_name
FROM Courses c
LEFT JOIN Enrollments e ON c.course_id = e.course_id
WHERE e.student_id IS NULL;
```

course_id	course_name
888	Web Development

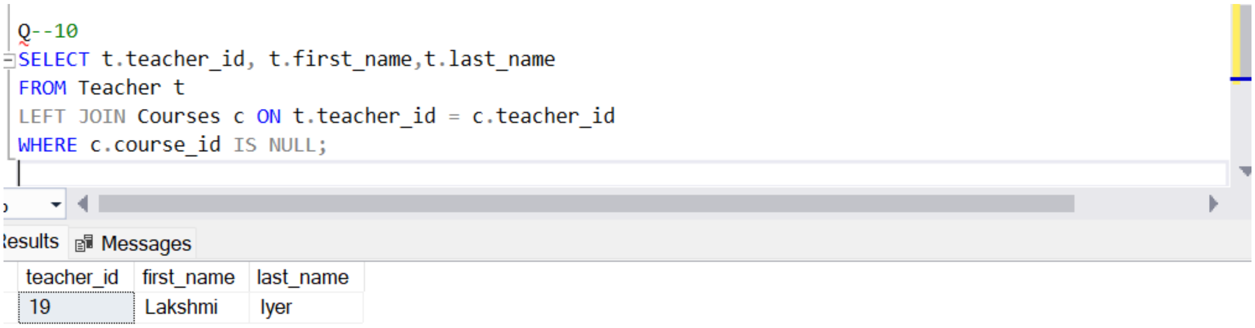
9. Identify students who are enrolled in more than one course. Use a self-join on the "Enrollments" table to find students with multiple enrollment records.



```
Q--9
SELECT e1.student_id, s.first_name, s.last_name, COUNT(e1.course_id) AS course_count
FROM Enrollments e1
JOIN Students s ON e1.student_id = s.student_id
GROUP BY e1.student_id, s.first_name, s.last_name
HAVING COUNT(e1.course_id) > 1;
```

student_id	first_name	last_name	course_count
2	Pooja	Patil	2

10. Find teachers who are not assigned to any courses. Use a LEFT JOIN between the "Teacher" table and the "Courses" table and filter for teachers with NULL course assignments.



```
Q--10
SELECT t.teacher_id, t.first_name,t.last_name
FROM Teacher t
LEFT JOIN Courses c ON t.teacher_id = c.teacher_id
WHERE c.course_id IS NULL;
```

teacher_id	first_name	last_name
19	Lakshmi	Iyer