Name – Ishaan Gupta

Batch – c# batch 2

Assignment - Student Information System (SIS)
Task - 3

(question+SQL query+output added below)

Q1) 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.

```sql
SELECT 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 = 1
GROUP BY s.first_name, s.last_name;
```

0 %

Results | Messages

	first_name	last_name	total_payments
1	Ishaan	Gupta	1000.00

Q2) 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.

```
SELECT c.course_name, COUNT(e.enrollment_id) AS student_count
FROM Courses c
LEFT JOIN Enrollments e ON c.course_id = e.course_id
GROUP BY c.course_name;
```

100 %

Results | Messages

	course_name	student_count
1	Biology	1
2	Chemistry	1
3	Computer Science	1
4	Economics	1
5	English	1
6	History	1
7	Mathematics	1
8	Physics	0
9	Political Science	1
10	Statistics	1

Q3) 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

```sql
SELECT s.first_name, s.last_name
FROM Students s
LEFT JOIN Enrollments e ON s.student_id = e.student_id
WHERE e.enrollment_id IS NULL;
```

100 %

Results | Messages

	first_name	last_name
1	John	Doe

Q4) 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.

```
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;
```

100 %

Results | Messages

	first_name	last_name	course_name
1	Ishaan	Gupta	Mathematics
2	Ravi	Mehta	Chemistry
3	Sunita	Singh	English
4	Rajesh	Patel	History
5	John	Doe	Biology
6	Sonal	Gupta	Economics
7	Rohan	Joshi	Computer Science
8	Manish	Rao	Statistics
9	Anita	Nair	Political Science

Q5) . Create a query to list the names of teachers and the courses they are assigned to. Join the "Teacher" table with the "Courses" table.

```
SELECT t.first_name, t.last_name, c.course_name
FROM Teacher t
LEFT JOIN Courses c ON t.teacher_id = c.teacher_id;
```

100 %

Results | Messages

	first_name	last_name	course_name
1	Varsha	Patil	Mathematics
2	Varsha	Patil	English
3	Seema	Joshi	Physics
4	Seema	Joshi	Chemistry
5	Seema	Joshi	History
6	Vikas	Dubey	NULL
7	Anjali	Nair	Biology
8	Karan	Shah	Economics
9	Megha	Ghosh	Computer Science

Q6) 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.

```sql
SELECT s.first_name, s.last_name, e.enrollment_date
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_name = 'Mathematics';
```

100 %

Results | Messages

	first_name	last_name	enrollment_date
1	Ishaan	Gupta	2023-01-10

Q7) 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.

```
SELECT 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;
```

100 %

Results | Messages

	first_name	last_name
1	John	Doe

Q8) 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.

```sql
SELECT c.course_name
FROM Courses c
LEFT JOIN Enrollments e ON c.course_id = e.course_id
WHERE e.enrollment_id IS NULL;
```

100 %

Results | Messages

	course_name
1	Physics

Q9) 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.

```sql
SELECT s.first_name, s.last_name, COUNT(e.enrollment_id) AS course_count
FROM Students s
JOIN Enrollments e ON s.student_id = e.student_id
GROUP BY s.first_name, s.last_name
HAVING COUNT(e.enrollment_id) > 1;
```

100 %

Results | Messages

first_name	last_name	course_count

Q10) 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.

```
SELECT 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;
```

100 %

Results | Messages

	first_name	last_name
1	Vikas	Dubey
2	Preeti	Reddy
3	Nisha	Chauhan