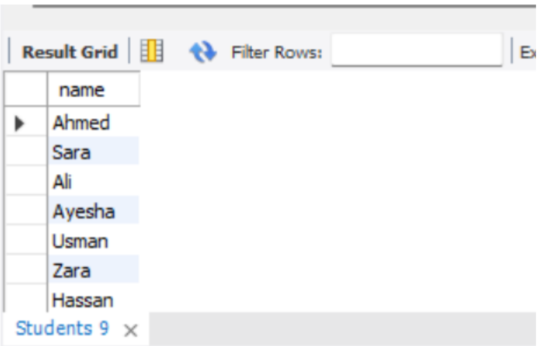
DATABASE QUERIES TO SOLVE

1.Write a query to get the names of all students.

SELECT name FROM Students;

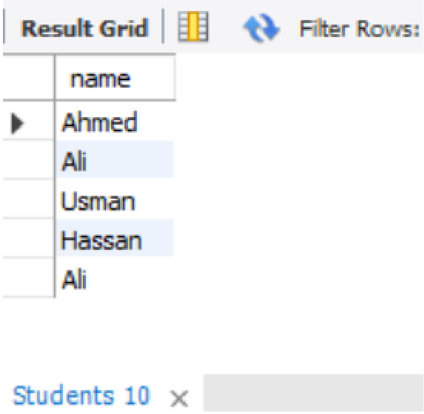


name
Ahmed
Sara
Ali
Ayesha
Usman
Zara
Hassan

2.Get the names of all male students.

SELECT name FROM Students

WHERE gender = 'Male';



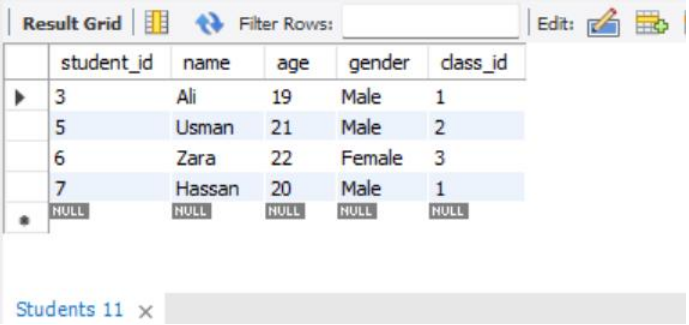
name
Ahmed
Ali
Usman
Hassan
Ali

3.Find all students older than 18 years.

SELECT * FROM Students

WHERE age > 18;

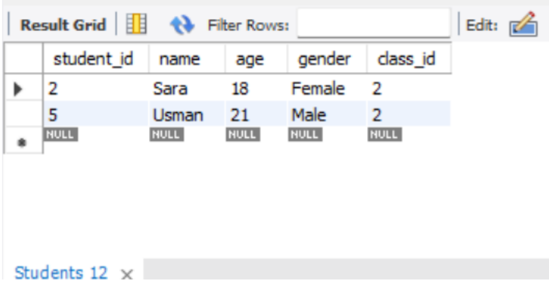
DATABASE QUERIES TO SOLVE



student_id	name	age	gender	class_id
3	Ali	19	Male	1
5	Usman	21	Male	2
6	Zara	22	Female	3
7	Hassan	20	Male	1
NULL	NULL	NULL	NULL	NULL

4.Get details of students who are in class_id = 2.

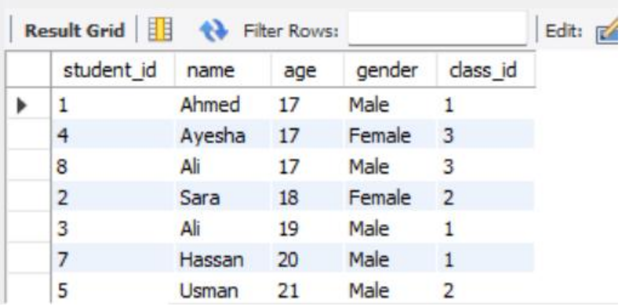
```
SELECT * FROM Students

WHERE class_id = 2;
```



student_id	name	age	gender	class_id
2	Sara	18	Female	2
5	Usman	21	Male	2
NULL	NULL	NULL	NULL	NULL

5.List all students ordered by age, youngest first.

```
SELECT * FROM Students

ORDER BY age ASC;
```



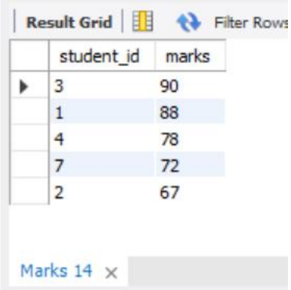
student_id	name	age	gender	class_id
1	Ahmed	17	Male	1
4	Ayesha	17	Female	3
8	Ali	17	Male	3
2	Sara	18	Female	2
3	Ali	19	Male	1
7	Hassan	20	Male	1
5	Usman	21	Male	2

6.Show top 5 students with the highest marks in "Math".

```
SELECT student_id, marks

FROM Marks
```

DATABASE QUERIES TO SOLVE

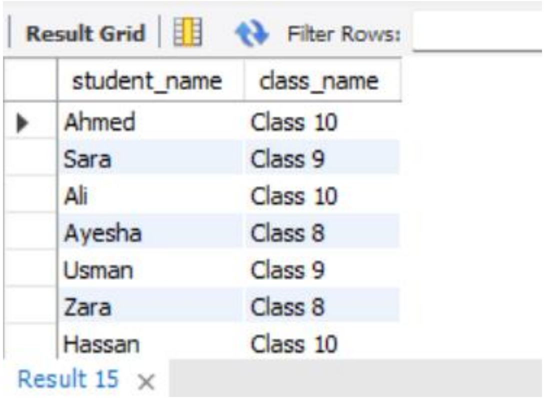
```
WHERE subject = 'Math'

ORDER BY marks DESC

LIMIT 5;
```



student_id	marks
3	90
1	88
4	78
7	72
2	67

7.List student names along with their class names.

```
SELECT S.name AS student_name, C.class_name

FROM Students S

JOIN Classes C ON S.class_id = C.class_id;
```

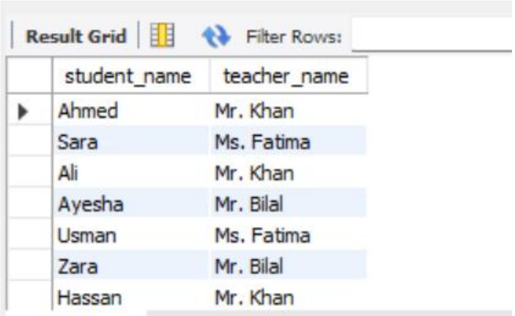


student_name	class_name
Ahmed	Class 10
Sara	Class 9
Ali	Class 10
Ayesha	Class 8
Usman	Class 9
Zara	Class 8
Hassan	Class 10

8.Show student names with their teacher’s name for each class.

```
SELECT S.name AS student_name, T.name AS teacher_name

FROM Students S

JOIN Classes C ON S.class_id = C.class_id

JOIN Teachers T ON C.teacher_id = T.teacher_id;
```

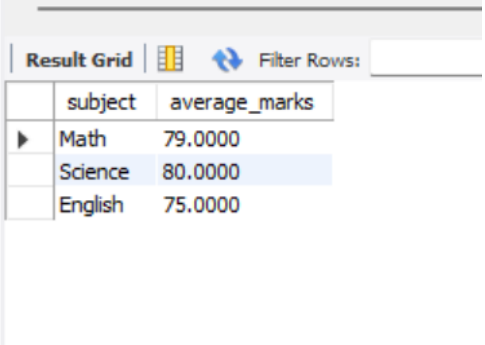
DATABASE QUERIES TO SOLVE



student_name	teacher_name
Ahmed	Mr. Khan
Sara	Ms. Fatima
Ali	Mr. Khan
Ayesha	Mr. Bilal
Usman	Ms. Fatima
Zara	Mr. Bilal
Hassan	Mr. Khan

9.Find the average marks for each subject.

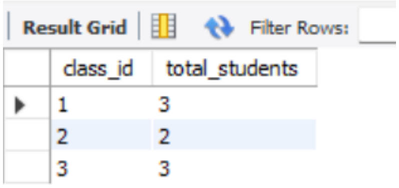
```
SELECT subject, AVG(marks) AS average_marks

FROM Marks

GROUP BY subject;
```



subject	average_marks
Math	79.0000
Science	80.0000
English	75.0000

10.Count how many students are in each class.

```
SELECT class_id, COUNT(*) AS total_students

FROM Students

GROUP BY class_id;
```

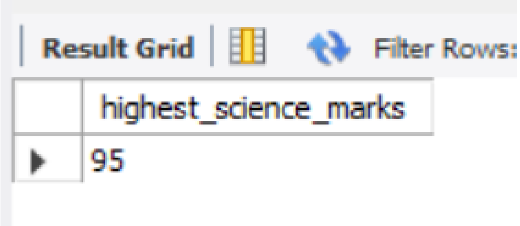


class_id	total_students
1	3
2	2
3	3

11.Find the highest marks scored in "Science".

```
SELECT MAX(marks) AS highest_science_marks
```

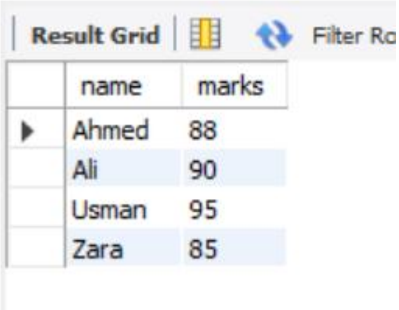
```
FROM Marks

WHERE subject = 'Science';
```



	highest_science_marks
▶	95

12.List names of students who scored more than the average marks.

```
SELECT S.name, M.marks

FROM Marks M

JOIN Students S ON M.student_id = S.student_id

WHERE M.marks > (

   SELECT AVG(marks) FROM Marks

);
```

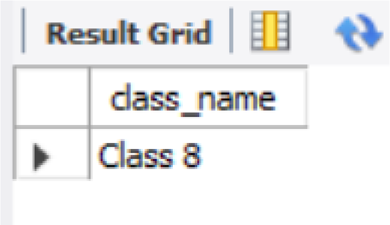


	name	marks
▶	Ahmed	88
	Ali	90
	Usman	95
	Zara	85

13.Find the class name where the oldest student studies.

```
SELECT C.class_name

FROM Students S

JOIN Classes C ON S.class_id = C.class_id

ORDER BY S.age DESC

LIMIT 1;
```

DATABASE QUERIES TO SOLVE



class_name
Class 8

14.Write a query to insert a new student named "Ali", age 17, male, in class 3.

```
INSERT INTO Students (student_id, name, age, gender, class_id)

VALUES (8, 'Ali', 17, 'Male', 3);
```

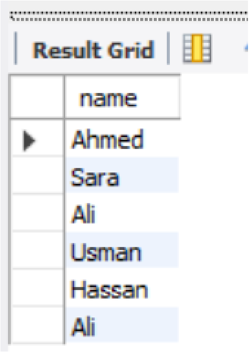
15.Update the subject of teacher with teacher_id = 1 to "Computer Science".

```
UPDATE Teachers

SET subject = 'Computer Science'

WHERE teacher_id = 1;
```

16.Delete all students who have age > 25.

17.Get names of students who have not received marks in "English".

```
SELECT name FROM Students

WHERE student_id NOT IN (

 SELECT student_id FROM Marks

 WHERE subject = 'English'

);
```

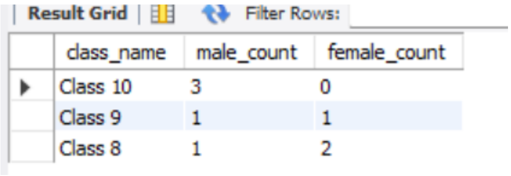


name
Ahmed
Sara
Ali
Usman
Hassan
Ali

DATABASE QUERIES TO SOLVE

18.Display each class name with the total number of male and female students.

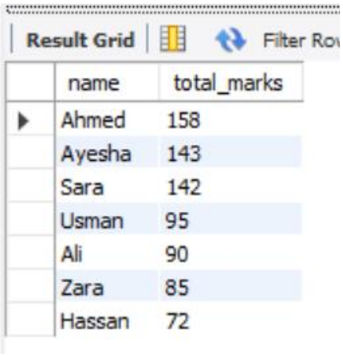
```
SELECT C.class_name,
       SUM(CASE WHEN S.gender = 'Male' THEN 1 ELSE 0 END) AS male_count,
       SUM(CASE WHEN S.gender = 'Female' THEN 1 ELSE 0 END) AS female_count
FROM Students S
JOIN Classes C ON S.class_id = C.class_id
GROUP BY C.class_name;
```



class_name	male_count	female_count
Class 10	3	0
Class 9	1	1
Class 8	1	2

19.Get a list of students with total marks across all subjects, ordered from highest to lowest.

```
SELECT S.name, SUM(M.marks) AS total_marks
FROM Students S
JOIN Marks M ON S.student_id = M.student_id
GROUP BY S.name
ORDER BY total_marks DESC;
```



name	total_marks
Ahmed	158
Ayesha	143
Sara	142
Usman	95
Ali	90
Zara	85
Hassan	72

20.Create a temp table and store Query #8 in it

```
CREATE TEMPORARY TABLE StudentTeacherInfo AS
SELECT S.name AS student_name, T.name AS teacher_name
```

```
FROM Students S

JOIN Classes C ON S.class_id = C.class_id

JOIN Teachers T ON C.teacher_id = T.teacher_id;
```