**Creating & Using Views for Student Scores**

**Objective**

Enhance database efficiency and reusability by creating SQL views to manage student scores, pass status, subject performance, and top scorers.

**1. Database Setup & Table Creation**

**1.1 Create students Table**

CREATE TABLE students ( student\_id INT PRIMARY KEY, name VARCHAR(100) );

**1.2 Create scores Table**

CREATE TABLE scores ( student\_id INT, subject VARCHAR(50), score INT, FOREIGN KEY (student\_id) REFERENCES students(student\_id) );

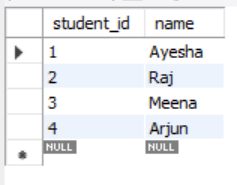
**1.3 Sample Data Insertion**

INSERT INTO students VALUES (1, 'Ayesha'), (2, 'Raj'), (3, 'Meena'), (4, 'Arjun');

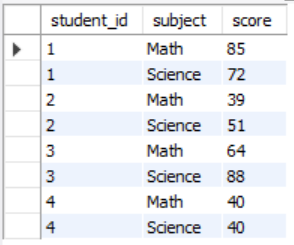
INSERT INTO scores VALUES (1, 'Math', 85), (1, 'Science', 72), (2, 'Math', 39), (2, 'Science', 51), (3, 'Math', 64), (3, 'Science', 88), (4, 'Math', 40), (4, 'Science', 40);

**Output:**

**Student Table**

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**Scores Table**

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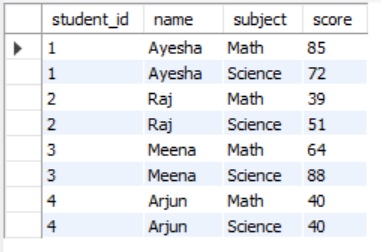
**Output Explanation:**  
Populated database with sample students and their scores across subjects. Ready for view creation and analysis.

**2. SQL Views for Analysis**

**2.1 View: Student Scores**

CREATE VIEW student\_scores AS SELECT s.student\_id, s.name, sc.subject, sc.score FROM students s JOIN scores sc ON s.student\_id = sc.student\_id;

SELECT \* FROM student\_scores;

**Output:**  
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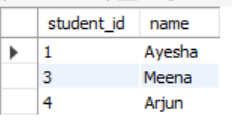
**Output Explanation:**  
 Displays student names with subject-wise scores for streamlined access and reporting.

**2.2 View: Students Who Passed All Subjects**

CREATE VIEW passed\_students AS SELECT student\_id, name FROM students WHERE student\_id NOT IN ( SELECT student\_id FROM scores WHERE score < 40 );

SELECT \* FROM passed\_students;

**Output:**

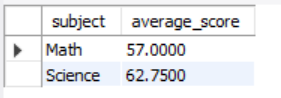
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Output Explanation:**  
 Lists students with all scores ≥ 40, helping identify consistent academic performers.

**2.3 View: Subject-Wise Average Scores**

CREATE VIEW subject\_average\_scores AS SELECT subject, AVG(score) AS average\_score FROM scores GROUP BY subject;

SELECT \* FROM subject\_average\_scores;

**Output:**

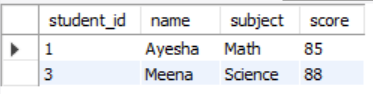
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Output Explanation:**  
 Highlights average scores per subject for curriculum performance insights.

**2.4.View: Top Scorers by Subject**

CREATE VIEW subject\_top\_scorers AS SELECT sc.student\_id, s.name, sc.subject, sc.score FROM scores sc JOIN students s ON sc.student\_id = s.student\_id WHERE sc.score = ( SELECT MAX(score) FROM scores WHERE subject = sc.subject );

SELECT \* FROM subject\_top\_scorers;

**Output:**

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Output Explanation:**  
 Identifies top-scoring students per subject, useful for academic recognition.

**Summary of Findings (Brief)**

* **student\_scores**: Displays all student names, subjects, and their scores.
* **passed\_students**: Lists students who scored ≥ 40 in every subject.
* **subject\_average\_scores**: Reveals average score per subject—Math appears lower than Science.
* **subject\_top\_scorers**: Identifies highest scoring student(s) per subject, helpful for recognizing excellence.