596. Classes More Than 5 Students

Source:https://leetcode.com/problems/classes-more-than-5-students/description/?envType=study-plan-v2&envId=top-sql-50

Table: Courses

```
+-------------+---------+
| Column Name | Type    |
+-------------+---------+
| student     | varchar |
| class       | varchar |
+-------------+---------+
```

(student, class) is the primary key (combination of columns with unique values) for this table.
Each row of this table indicates the name of a student and the class in which they are enrolled.

The result format is in the following example.

Example 1:

Input:
Courses table:

```
+---------+----------+
| student | class    |
+---------+----------+
| A       | Math     |
| B       | English  |
| C       | Math     |
| D       | Biology  |
| E       | Math     |
| F       | Computer |
| G       | Math     |
```

| H | Math |
| I | Math |
+---------+----------+
Output:
+---------+
| class |
+---------+
| Math |
+---------+

Explanation:
- Math has 6 students, so we include it.
- English has 1 student, so we do not include it.
- Biology has 1 student, so we do not include it.
- Computer has 1 student, so we do not include it.

Q) Write a solution to find all the classes that have at least five students. Return the result table in any order.

Ans:

```
SELECT class
FROM Courses
GROUP BY class
HAVING COUNT(student) >= 5;
```

Explanation:

---

1. `SELECT class`

- You're selecting the `class` column — this will be part of the final result.

---

2. `FROM Courses`

- You're working with data from the `Courses` table.
- Assume this table has at least two columns: `class` and `student`.

---

3. `GROUP BY class`

- This groups the rows in the table **by each unique class**.
- All records with the same class will be grouped together.
- Within each group, aggregate functions like `COUNT()` can be applied.

---

4. `HAVING COUNT(student) >= 5`

- This filters the **grouped results**, not the individual rows.
- You're saying: **only keep groups (i.e., classes) where the number of students is 5 or more**.
- `HAVING` is used **after** grouping, whereas `WHERE` is used **before** grouping.

- AMIT KUMAR