| | | | | | Aggregation features by student_id | |
|---|---|---|---|---|---|---|
| **student_id** | course_id | score | name | level | count(course_id) | max(course_id) |
| 1 | 1 | 4 | Adam | senior | 2 | 2 |
| 1 | 2 | 2 | Adam | senior | 2 | 2 |
| 2 | 1 | 3 | Bob | junior | 3 | 3 |
| 2 | 2 | 2 | Bob | junior | 3 | 3 |
| 2 | 3 | 3 | Bob | junior | 3 | 3 |
| 3 | 2 | 1 | Erin | senior | 1 | 2 |
| 4 | 1 | 4 | Rob | junior | 2 | 3 |
| 4 | 3 | 4 | Rob | junior | 2 | 3 |
| 5 | 2 | 5 | Dan | senior | 3 | 4 |
| 5 | 3 | 2 | Dan | senior | 3 | 4 |
| 5 | 4 | 1 | Dan | senior | 3 | 4 |
| 6 | 2 | 4 | Peter | senior | 2 | 4 |
| 6 | 4 | 5 | Peter | senior | 2 | 4 |
| 7 | 1 | 2 | Sai | senior | 3 | 4 |
| 7 | 3 | 3 | Sai | senior | 3 | 4 |
| 7 | 4 | 4 | Sai | senior | 3 | 4 |

**(a)**

**count(course_id) >= 3**

| **student_id** | **course_id** | **score** | **name** | **level** |
|---|---|---|---|---|
| 2 | 1 | 3 | Bob | junior |
| 2 | 2 | 2 | Bob | junior |
| 2 | 3 | 3 | Bob | junior |
| 5 | 2 | 5 | Dan | senior |
| 5 | 3 | 2 | Dan | senior |
| 5 | 4 | 1 | Dan | senior |
| 7 | 1 | 2 | Sai | senior |
| 7 | 3 | 3 | Sai | senior |
| 7 | 4 | 4 | Sai | senior |

**(b)**

**level = "senior"**

| **student_id** | **course_id** | **score** | **name** | **level** |
|---|---|---|---|---|
| 5 | 2 | 5 | Dan | senior |
| 5 | 3 | 2 | Dan | senior |
| 5 | 4 | 1 | Dan | senior |
| 7 | 1 | 2 | Sai | senior |
| 7 | 3 | 3 | Sai | senior |
| 7 | 4 | 4 | Sai | senior |

**(c)**

**group by student_id**

| **student_id** | **course_id(s)** | **score(s)** | **name(s)** | **level(s)** |
|---|---|---|---|---|
| 5 | 2, 3, 4 | 5, 2, 1 | Dan | senior |
| 7 | 1, 3, 4 | 2, 3, 4 | Sai | senior |

**(d)**

**projection**

| **name** | **max_score** |
|---|---|
| **Dan** | 5 |
| **Sai** | 4 |

**(e)**