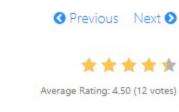
■ Articles > 618. Students Report By Geography ▼

## 618. Students Report By Geography

June 21, 2017 | 13.3K views



**6 9 6** 

stored in table student as below.

A U.S graduate school has students from Asia, Europe and America. The students' location information are

```
continent
name
Jack
        America
Pascal Europe
Xi
        Asia
Jane
      America
```

guaranteed that the student number from America is no less than either Asia or Europe. For the sample input, the output is:

its corresponding continent. The output headers should be America, Asia and Europe respectively. It is

Pivot the continent column in this table so that each name is sorted alphabetically and displayed underneath

America | Asia | Europe |

-----

```
Jack
               Xi
                    Pascal
  Jane
Follow-up: If it is unknown which continent has the most students, can you write a query to generate the
```

## Approach: Using "session variables" and join [Accepted] Intuition

Solution

student report?

Assign a separate auto increment row id to each of the continent, and then join them together.

## Algorithm

To set the row id for each continent, we need to use session variables. For example, we can use the following statement to assign a auto increment row number for students in America.

## SELECT

FROM

row\_id, America

row\_id | America -----Jack

row\_id | Europe |-----| | 1 | Jesper |

MySQL

FROM

WHERE

student

continent = 'Asia'

ORDER BY Asia) AS t1

(SELECT @am:=0) t,

```
(SELECT
    @am:=@am + 1 AS row_id, name AS America
FROM
    student
WHERE
    continent = 'America'
ORDER BY America) AS t2
```

```
Jane
Similarly, we can assign other dedicated row id for other continents as the following result.
  row_id | Asia |
  -----
  | 1 | Xi |
```

|-----| | Jack | Xi | Pascal |

Then if we join these 3 temp tables together and using the same row\_id as the condition, we can have the

```
following table.
  | row_id | America | Asia | Europe |
           Jane |
One issue you may encounter is the student list for America is not complete if you use regular inner join
```

since there are more records in this list comparing with the other two. So you may have a solution to use the outer join. Correct! But how to arrange the 3 tables? The trick is to put the America list in the middle so

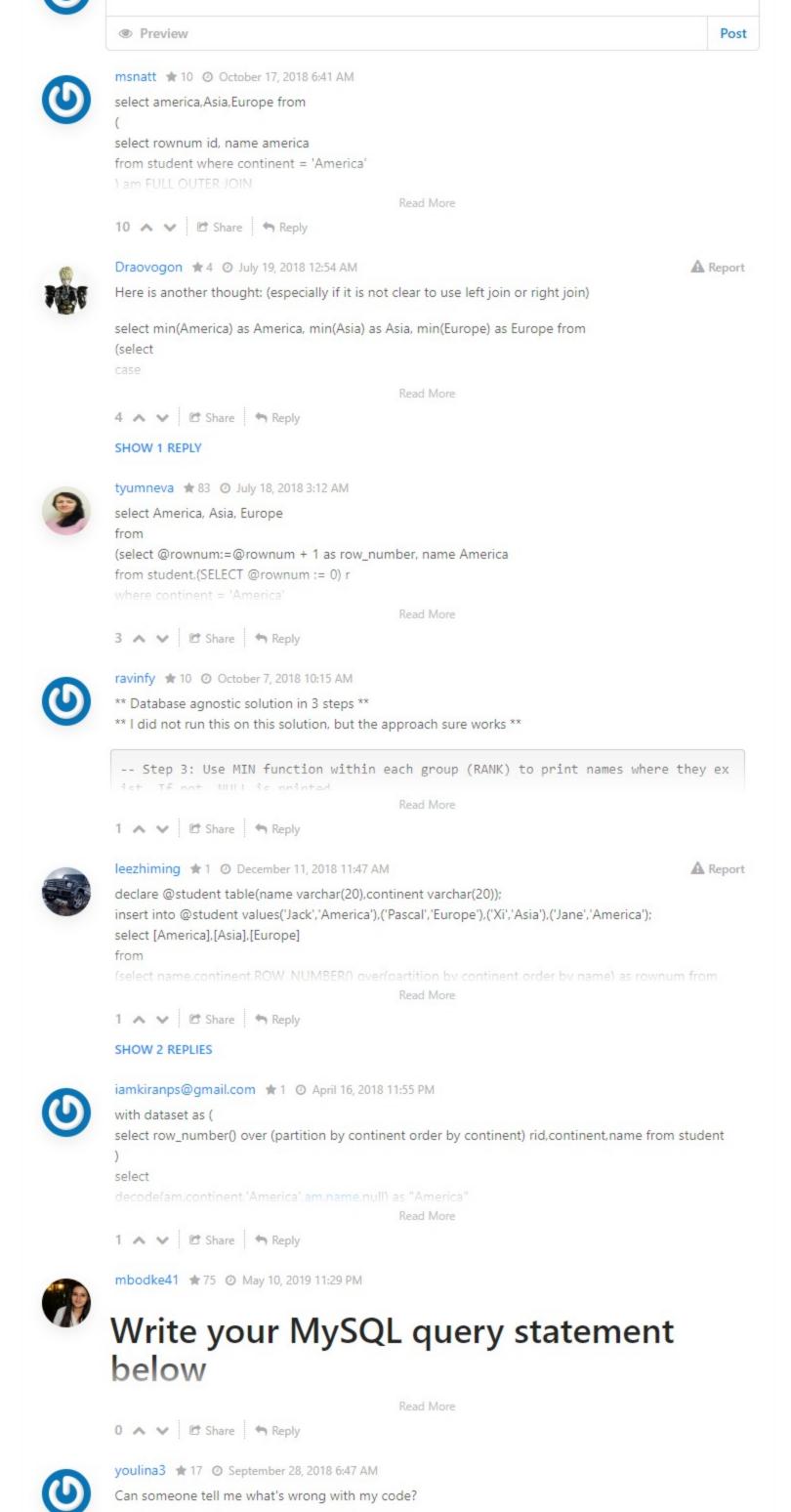
that we can use right (outer) join and right (outer) join to connect with other two tables.

SELECT America, Asia, Europe FROM (SELECT @as:=0, @am:=0, @eu:=0) t, (SELECT @as:=@as + 1 AS asid, name AS Asia

```
RIGHT JOIN
      (SELECT
          @am:=@am + 1 AS amid, name AS America
     FROM
          student
     WHERE
          continent = 'America'
     ORDER BY America) AS t2 ON asid = amid
          LEFT JOIN
      (SELECT
          @eu:=@eu + 1 AS euid, name AS Europe
     FROM
          student
     WHERE
          continent = 'Europe'
     ORDER BY Europe) AS t3 ON amid = euid
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```

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select America, Asia, Europe

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ztj 🛊 15 🗿 August 5, 2018 9:10 AM

(select @am:= @am + 1 as index,

select America, Asia, Europe

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1 2 >

CathyQian \* 6 @ April 10, 2018 2:27 AM

from (

(select (@rownum1 = @rownum1 +1) rownum1,s1.name as America

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@pxj5333 case ..... when ... will always give you null values in this case, so it is not a good solution here.