

## SQL competitions

### Advanced Join Level from Hacker Rank

“Julia’s coding game”

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**Problem:** You are provided with a dataset regarding a coding contest. Write a query to print the respective hacker\_id and name of hackers who achieved full scores for more than one challenge. Order your output in descending order by the total number of challenges in which the hacker earned a full score. If more than one hacker received full scores in same number of challenges, then sort them by ascending hacker\_id.

**Sample Input:**

Hackers Table:

| <b>hacker_id</b> | <b>name</b> |
|------------------|-------------|
| 5580             | Rose        |
| 8439             | Angela      |
| 27205            | Frank       |
| 52243            | Patrick     |
| 52348            | Lisa        |
| 57645            | Kimberly    |
| 77726            | Bonnie      |
| 83082            | Michael     |
| 86870            | Todd        |
| 90411            | Joe         |

Difficulty Table:

| difficulty_level | score |
|------------------|-------|
| 1                | 20    |
| 2                | 30    |
| 3                | 40    |
| 4                | 60    |
| 5                | 80    |
| 6                | 100   |
| 7                | 120   |

Challenges Table:

| challenge_id | hacker_id | difficulty_level |
|--------------|-----------|------------------|
| 4810         | 77726     | 4                |
| 21089        | 27205     | 1                |
| 36566        | 5580      | 7                |
| 66730        | 52243     | 6                |
| 71055        | 52243     | 2                |

Submissions Table:

| submission_id | hacker_id | challenge_id | score |
|---------------|-----------|--------------|-------|
| 68628         | 77726     | 36566        | 30    |
| 65300         | 77726     | 21089        | 10    |
| 40326         | 52243     | 36566        | 77    |
| 8941          | 27205     | 4810         | 4     |
| 83554         | 77726     | 66730        | 30    |
| 43353         | 52243     | 66730        | 0     |
| 55385         | 52348     | 71055        | 20    |
| 39784         | 27205     | 71055        | 23    |
| 94613         | 86870     | 71055        | 30    |
| 45788         | 52348     | 36566        | 0     |
| 93058         | 86870     | 36566        | 30    |
| 7344          | 8439      | 66730        | 92    |
| 2721          | 8439      | 4810         | 36    |
| 523           | 5580      | 71055        | 4     |
| 49105         | 52348     | 66730        | 0     |
| 55877         | 57645     | 66730        | 80    |
| 38355         | 27205     | 66730        | 35    |
| 3924          | 8439      | 36566        | 80    |
| 97397         | 90411     | 66730        | 100   |
| 84162         | 83082     | 4810         | 40    |
| 97431         | 90411     | 71055        | 30    |

Sample Output: 90411 Joe

## Explanation

Hacker 86870 got a score of 30 for challenge 71055 with a difficulty level of 2, so 86870 earned a full score for this challenge.

Hacker 90411 got a score of 30 for challenge 71055 with a difficulty level of 2, so 90411 earned a full score for this challenge.

Hacker 90411 got a score of 100 for challenge 66730 with a difficulty level of 6, so 90411 earned a full score for this challenge.

Only hacker 90411 managed to earn a full score for more than one challenge, so we print the their hacker\_id and name as 2 space-separated values.

## How did I carry this project out?

In this project I learned how to use “multiple joins” in SQL. So there’s a relationship between each two tables (ex: based on a common column) and I had to understand how to use connections between all tables and how to impose the requested information (print the respective hacker\_id and name of hackers who achieved full scores for more than one challenge) and obtain an answer.

1- I noticed there’s a relationship between submissions table and challenges table based on challenge\_id . So I joined them on: submissions.challenge\_id = challenges.challenge\_id.

2-There was also another relationship between challenges table and difficulty table based on difficulty\_level. So I joined them on: challenges. difficulty\_level = difficulty. difficulty\_level.

3- Finally, there is a relationship between submissions table and hackers table based on hacker\_id. So I joined them on: submissions. hacker\_id = hackers.hacker\_id.

4- The conditions are: submissions.score = difficulty.score and challenges. difficulty\_level = difficulty. difficulty\_level.

5- Here I grouped them by hackers.hacker\_id and hackers.name columns, as requested.

6- As a main condition stated by the problem, I used having count (submissions.hacker\_id) > 1 (because the problem said hackers who achieved full scores for more than one challenge) and I ordered the outcomes by count(submissions.hacker\_id) desc, submissions.hacker\_id asc before selecting hackers.hacker\_id, hackers.name. (Because the problem says Order in descending order by the total number of challenges in which the hacker earned a full score then by ascending hacker\_id)

I have included my complete code and results.

**CODE:**

```
select h.hacker_id, h.name
from submissions s
inner join challenges c
on s.challenge_id = c.challenge_id
inner join difficulty d
on c.difficulty_level = d.difficulty_level
inner join hackers h
on s.hacker_id = h.hacker_id
where s.score = d.score and c.difficulty_level = d.difficulty_level
group by h.hacker_id, h.name
having count(s.hacker_id) > 1
order by count(s.hacker_id) desc, s.hacker_id asc
```

**Results:**

```
27232 Phillip
28614 Willie
15719 Christina
43892 Roy
14246 David
14372 Michelle
18330 Lawrence
26133 Jacqueline
26253 John
30128 Brandon
35583 Norma
13944 Victor
```