

Databases 2021/2022

Supervision 2

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1. Discuss your solutions to the document-oriented tick: Tick 2

Do you understand the queries and what they are doing? Please include your answer to every question with a short description of the query and your solution.

2. On our movie database, will the SQL query

```
select person_id , movie_id , position from credits
where not((not (position is null)) or position = 17);
```

return the same results as the query

```
select person_id , movie_id , position from credits
where position <> 17;
```

Explain your answer.

3. Suppose that a and b are 3-valued expressions in SQL (true, false, or null). Can the expression **(a and b) is null** be rewritten as an equivalent boolean combination of **a**, **b**, **a is null**, and **b is null**?
4. In boolean logic, the expression **not(a and b)** always has the same value as **(not a) or (not b)**. Is that true in 3-valued logic?

What about the expression **not(a or b)** and the expression **(not a) and (not b)**?

Is the expression **a or (not a)** always true in 3-valued logic? If not, can you extend this axiom to make it always true?