

- Data Model: RDF - graph
- query language: SPARQL
  - match/regex-based lg.
  - algebraic semantics

Jun 2-14:08

### NULL values in joins

SQL: Mondial:

~~river~~ (Name, length, ..., ~~river~~, ~~city~~)  
~~located~~ (city, prov, country, ~~river~~, ~~length~~, ~~city~~...)

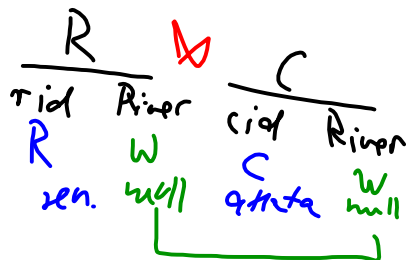
✗  
 natural join

where it flows to  
 maybe null

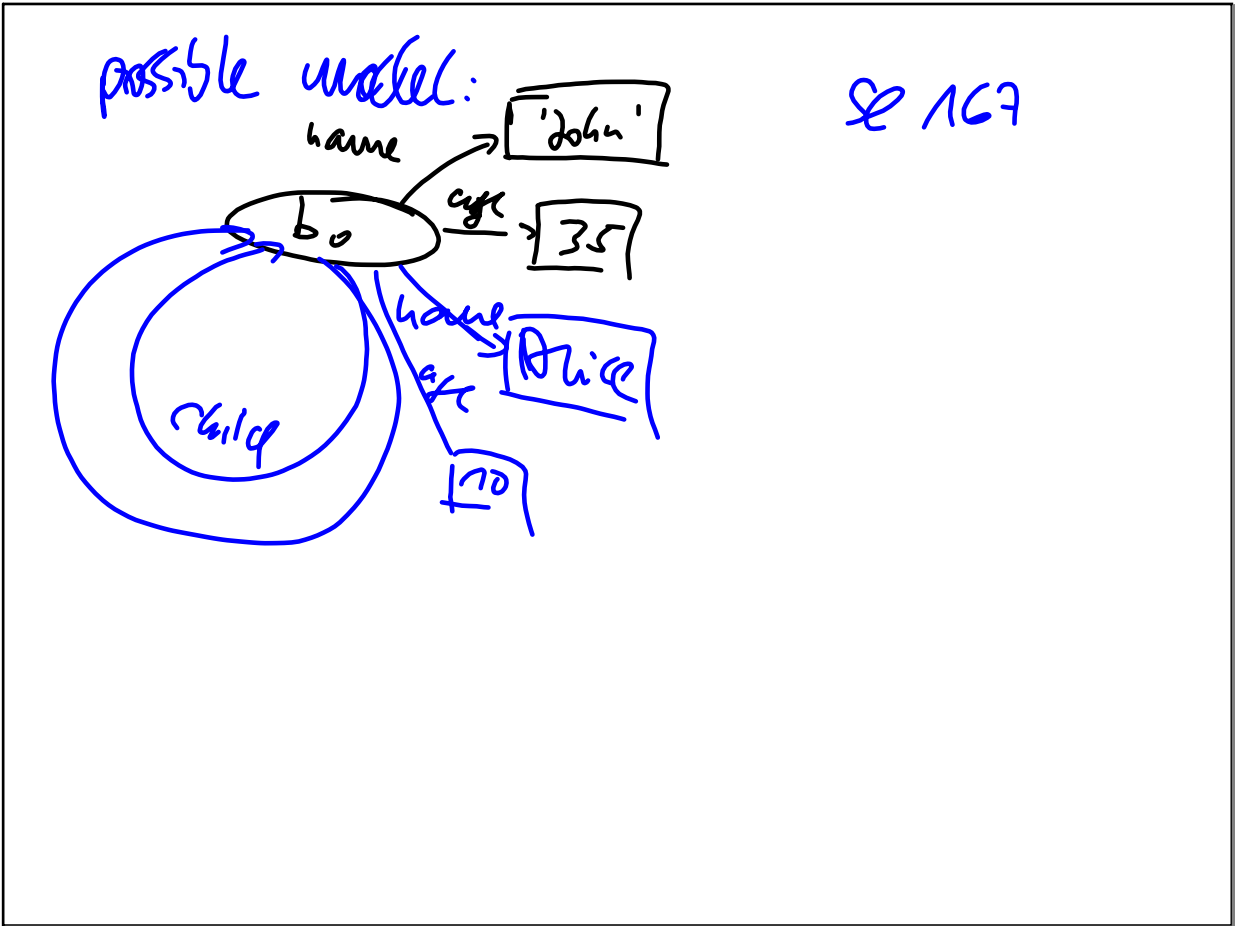
Main → Rhein ← Köln  
 " " ← Aachen

```

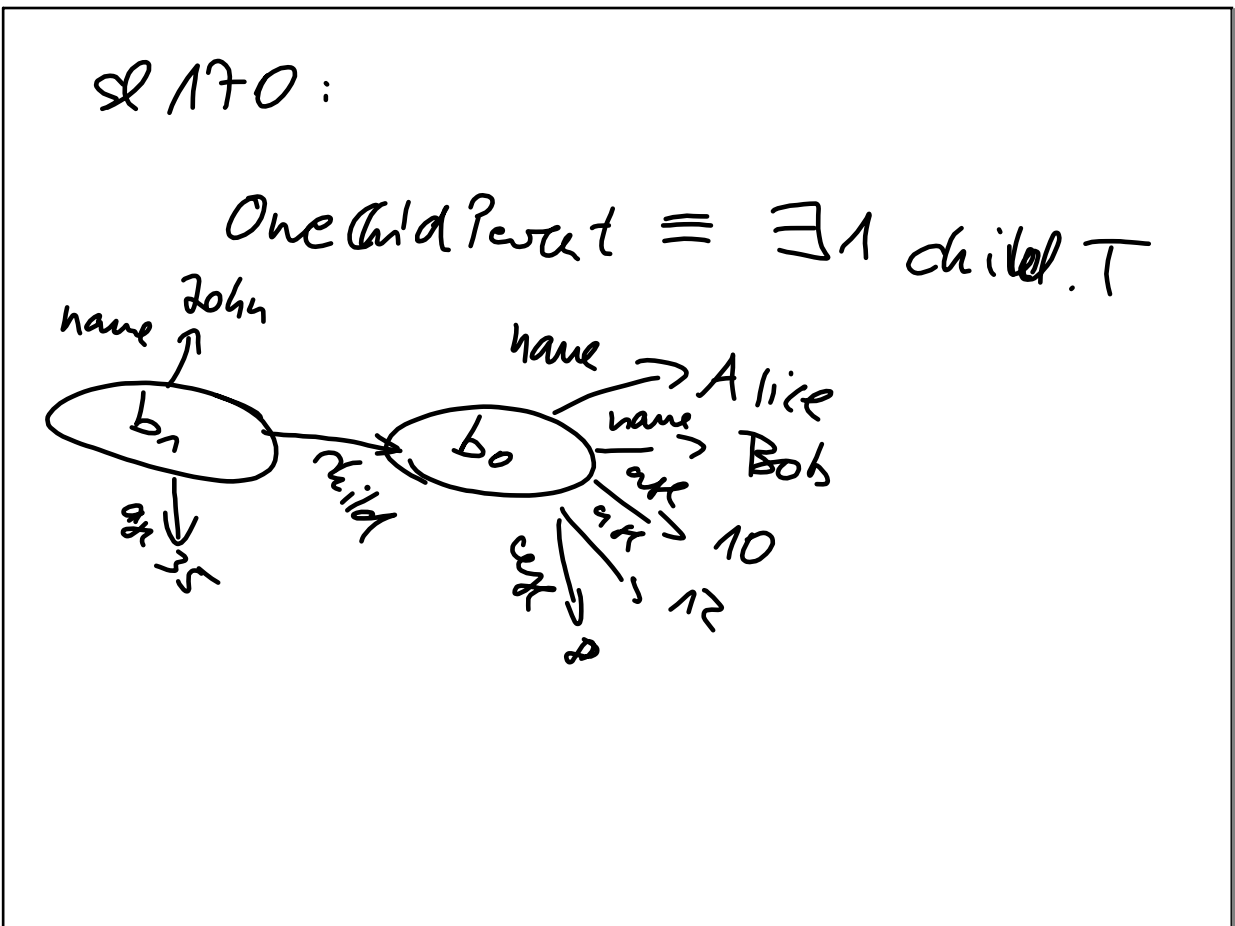
select river.name, river, city
from river natural join
(select city, country, river
 from located)
where country = 'D'
  
```



Jun 2-14:23



Jun 2-15:20



Jun 2-15:30