

INF-2700 Exercise 2

Relational algebra and SQL

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You get better understanding of the relational data model by thinking "out of the box" (well, a little).

In the following, we work with the `food_db` (in the `shared` git repository).

1 $R \bowtie S$

Try some queries to verify your answer.

- What happens if R and S have no common attributes?
- What happens if R and S have exactly the same attributes?

2 What do these queries do?

```
select *
from episodes e, food_types f
where e.name = "The Checks" or e.name="The Money";

select *
from episodes
group by season;
```

3 Writing queries

It is important to formulate queries clearly and logically.

It is helpful to make a sketch in clear steps with relational algebra.

Avoid a big-bang magical SQL query in one step.

Try to solve the problems in different ways (the TAs will show you there are indeed multiple ways).

(you can find similar queries for univ-db in `multi_year_instructor.sql` in the `shared` git repository)

1. foods that occurred in a season-4 episode *and* a season-6 episode
2. foods that occurred in multiple seasons
3. top food, food that occurs most in episodes
4. list of food types, ordered (descending) by the number of foods of their types
5. list foods ordered (descending) by the number of foods of their types