

Introduction to Databases

Homework 3

This set of exercises will be helpful in preparing for the exams. They are intended to encourage you to become familiar with relational algebra.

The textbook exercises are given at the end of the section of interest.

1. Textbook exercise 2.4.1 (relational algebra expressions – do together with the next exercise (sets))
2. Textbook exercise 2.4.2 (relational algebra expression trees - do together with the previous exercise (sets))
3. Textbook exercise 2.5.1 (constraints as relational algebra statements (sets))
4. Textbook exercise 2.5.4 (equality constraints (sets))
5. Textbook exercise 5.1.1 (relational algebra on bags)
6. Textbook exercise 5.1.4a-f (laws of relational algebra on bags / equivalent expressions)
7. Textbook exercise 5.2.1 (projection and grouping)
8. Textbook exercise 5.2.2 (idempotency)

(Ungraded Question) For each of the relational algebra expressions of (1), write the SQL equivalent.