



WEEK 5

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**BYOD**



# AGENDA

- ▶ Recap: Relational Algebra
- ▶ Sprint 3
  - ▶ Operators in OpossumDB
- ▶ Organisation



# RELATIONAL ALGEBRA (I)

- ▶ Theoretical foundation for relational databases and SQL as we know it
  - ▶ Operates on relations
  - ▶ Relations have a scheme
  - ▶ Relations are sets (no order, no duplicates, ...)



## RELATIONAL ALGEBRA (II)

- ▶ The relational algebra defines five most basic (primitive) operators
  - ▶ Selection
  - ▶ Projection
  - ▶ Cartesian product
  - ▶ Set union
  - ▶ Set difference
- ▶ With these five operators, all other operators can be formulated



# OPOSSUMDB'S OPERATOR CONCEPT

- ▶ OpossumDB loosely resembles the relational algebra with its operator concept
- ▶ Query are formulated as trees by chaining operators
- ▶ Input of operators
  - ▶ Each operator takes up to two operators as input
  - ▶ Usually, the first operator is the `getTable` operator
- ▶ The hard part
  - ▶ We have to deal with multiple types of relation types
  - ▶ While doing that, we have to keep an eye on efficiency



# ORGANISATION

- ▶ Deadline Sprint 3
  - ▶ 30th November 2016
- ▶ Instructions for Code Review of Sprint 2 will follow
- ▶ Next Week
  - ▶ Sprint 2 Feedback
  - ▶ Results of the Performance Challenge
  - ▶ Virtual Method Call Overhead

THAT'S IT.

