IDS Lecture 1: Introduction

Database Management System (DBMS) Advantages:

- Uniform data administration
- Efficient access to resources
- Data independence
- Reduced application development time
- Data integrity and security
- Concurrent access
- Recovery from crashes

Database Kinds

- Relational databases (course focus)
- Document stores
- Graph databases
- Key-value stores

Relational Model

First proposed by Edgar F. Codd, 1970

Schema

A relational model has a **schema** consisting of

- set of table names
- column names
- constraints

Query Languages

Procedural Specify a *sequence of steps* to obtain expected results.
Declarative Specify *what* you want not *how* to get it.

- queries are typically declarative (the how is internal).