Notes for Database Management Systems by Raghu Ramakrishnan and Johannes Gehrke

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Abstract

Notes for the textbook Database Management Systems by Raghu Ramakrishnan and Johannes Gehrke, focusing on applications.

Contents

Chapter 1

Overview of Database Systems

A **database** is a collection of data, typically describing the activities of one or more related organizations. They often contain *entities* and *relationships* between those entities.

Further, this text focuses on **relational database systems (RDBMSs)**, which are the most common.

1.1 Advantages of a DBMS

Using a DBMS over traditional file systems has many advantages:

- **Data independence**: applications shouldn't, ideally, have access to details of data representation and storage
- **Efficient data access**: efficient techniques are used for data storage and retrieval
- **Data integrity and security**: the DBMS can enforce integrity constraints
- **Data administration**: centralization of the administration of data can be advantageous
- **Concurrent access and crash recovery**: concurrent access is possible

1.2 The Relational Model

The main idea to this model is a **relation**, which can be thought of as a set of **records**.

Appendix

Appendix A

Additional Proofs

A.1 Proof of ??

We can now prove **??**.

Proof of ??. See here. ■