# Database Terminology

## Business Application Development

# DB Terminology

- Database
  - Often abbreviated *DB*. A collection of information organized in such a way that a computer program can quickly select desired pieces of data.
- DBMS
  - Database Management System
  - A collection of programs that enables you to store, modify, and extract information from a database.

# DB Terminology

- RDBMS
  - *Relational Database Management System*
  - A type of DBMS that stores data in the form of related tables.
  - Powerful because they require few assumptions about how data is related or how it will be extracted from the database.
  - The same database can be viewed in many different ways.
- Table
  - A collection of data that relates to each other

# DB Terminology

- ## Record
  - A complete set of information. Records are composed of fields, each of which contains one item of information.
  - Also called a tuple
- ## Field
  - A space allocated for a particular item of information.
  - The smallest units of information you can access.

# DB Terminology

- Data
  - Distinct pieces of information, usually formatted in a special way.
- Metadata
  - Data about data.
  - Describes how and when and by whom a particular set of data was collected, and how the data is formatted.
- Attribute
  - A particular piece of information about a field

# DB Design

- Student Database

# DB Terminology

- SQL
  - Structured Query Language
  - Standardized query language for requesting information from a database.
- Normalization
  - The process of organizing data to minimize redundancy

# DB Terminology

- **First Normal Form**
  - Each field in a table contains different information. For example, in an employee list, each table would contain only one birth date field.

- **Second Normal Form**
  - Each field in a table that is not a determiner of the contents of another field must itself be a function of the other fields in the table.

- **Third Normal Form**
  - No duplicate information is permitted.

# DB Design

- Normalize our database

# DB Terminology

- Trigger
  - A procedure that initiates an action when an event (INSERT, DELETE or UPDATE) occurs.
  - Stored in and managed by the DBMS.
  - Cannot be called or executed; the DBMS automatically fires the trigger as a result of a data modification to the associated table.
  - Triggers are used to maintain the referential integrity of data by changing the data in a systematic fashion.

# DB Terminology

- Key

  - A field that you use to sort data. It can also be called a *key field* , *sort key*, *index,* or *key word.*

- Foreign Key

  - A key field that identifies records in a different table

# DB Terminology

Questions?

# DB Design

- Assign Key's to our Student DB
- Create a gaming DB

# Database assignment

- **Lawn Care Company**
- **Technical Equipment**
- **Conference Sports Teams**
- **School's Extra-curricular Activities**
- **Library program**
- **Student computers/internet**
- **Video Rental System**
- **Role playing game**
- **Racing game**