Definitions of ‘Database’

- “A shared collection of logically related data and its description, designed to meet the information needs of an organization.” (Connolly/Begg, 6/e)
- “... a collection of persistent data that is used by the application systems of some given enterprise” (Date, 7/e)
- “A collection of related data” (Elmasri/Navathe, 5/e)
- “[A] collection of records kept for a common purpose” (O'Neil\(^2\), 2/e)
- “A collection of data, typically describing the activities of one or more related organizations” (Ramakrishnan/Gehrke, 3/e)
- “A collection of related records stored with a minimum of redundancy that many users can share simultaneously” (Shepherd)
- “[A] collection of [interrelated] data ... contain[ing] information relevant to an enterprise” (Silberschatz/Korth/Sudarshan, 4/e)
Common Definition Themes

Three very popular ideas in the definitions:

– Collection
– (Inter) Related
– Data / Records

Other ideas of note:

Definitions of ‘Database Management System’

– “A software system that enables users to define, create, maintain, and control access to the database.” (Connolly/Begg, 6/e, p. 16)
– “A computerized record–keeping system” (Date, 7/e, p. 2)
– “A collection of programs that enables users to create and maintain a database” (Elmasri/Navathe, 5/e, p. 5)
– “A program product for keeping computerized records about an enterprise” (O’Neil/O’Neil, 2/e, p. 1)
– “Software designed to assist in maintaining and utilizing large collections of data” (Ramakrishnan/Gehrke, 3/e, p. 4)
– “Cost–effective methods for storing, organizing, retrieving, and managing data” (Shepherd)
– “A collection of interrelated data and a set of programs to access those data” (Silberschatz/Korth/Sudarshan, 4/e, p. 1)
DBMS Components

1. The Database

2.

3.

4.

Why use a DBMS? (1 / 3)
Disadvantages of DBMSes

An Aside: Data Languages

Four types of manipulation, four types of languages: