Contents of a DBMS

- A Database contains:
  - User Data
  - Metadata
  - Indexes
  - Application metadata

User Data

- Data users work with directly by entering, updating and viewing.

- For our purposes, data will be generally stored in tables with some relationships between tables.

- Each table has one or more columns. A set of columns forms a database record.

Metadata

- Data about data.

- Data that describe how user data are stored in terms of table name, column name, data type, length, primary keys, etc.

- Metadata are typically stored in System tables or System Catalog and are typically only directly accessible by the DBMS or by the system administrator.

Indexes

- In keeping with our desire to provide users with several different views of data, indexes provide an alternate means of accessing user data. Sorting and Searching:

- Indexes allow the database to access a record without having to search through the entire table.

- Updating data requires an extra step: The index must also be updated.

Applications Metadata

- Many DBMS have storage facilities for forms, reports, queries and other application components.

- Applications Metadata is accessed via the database development programs.

- Example: Look at the Documentor tool in MS Access. It can also show metadata for Queries, Forms, Reports, etc.