**DATABASE BASICS**

A database is a collection of information that is organized so that it can easily be accessed, managed, and updated. Sometimes referred to as database management systems (DBMS), database software tools are primarily used for storing, modifying, extracting, and searching for information within a database.

A database is a collection of data, but that collection grows as additional data is obtained. Data can be collected and entered manually or electronically. Information can also be removed from a database when it is no longer needed.

One of the primary database management activities is keeping data up to date by entering current addresses, inventory quantities, and so on. As with collecting data, updates can be made manually or electronically.

Databases, combined with mail merge and other computerized technologies, offer efficient ways to distribute information customers, employees, government agencies, and other companies.

Databases make it easy to locate information. A pharmacist can check a pharmaceutical database for drug interaction before filling a prescription

**Big Data.**

Big data refers to huge collections of data that are difficult to process, analyze, and manage using conventional database tools. An example is the one million transactions generated by Wal-Mart sales registers every hour, which are stored in databases measured in petabytes, not gigabytes or terabytes.

**Database Security.**

Databases are vulnerable to physical theft, hacking, and unauthorized access. A disk or tape containing a backup or an archive could be stolen. A laptop computer containing a database used by a field representative or teleworker can go missing. Hackers can gain unauthorized access to a database over the Internet or an unsecured wireless connection.

The qualities that make databases efficient also make them vulnerable. Data stored in digital format is easy to copy, back up, store, and transmit.

Today’s computers are under assault from hackers and natural disasters. System administrators can take steps to secure computer systems and the databases they contain. Security measures include encryption, access controls, data security policies, and intrusion monitoring.