



Relational Database Concepts

Introduction To Databases

PRESENTED BY IMGARD EKOKOBE



Objectives

- Learn the role of databases in an organization.
- Basic terminology of databases
- Examples of databases
- Characteristics of databases
- Learn the importance of non procedural access
- Transaction processing



Introduction To Databases

What is the role of databases in an organization?

"Databases provide vital support for the daily operations and decision making of an organization" ~ *Michael Mannino*

Daily Operations - Examples:

- Paying employees
- Taking customer orders
- online banking transactions
- Tracking student enrollment
- Updating employees information
- Making online flight reservations



Introduction To Databases

Decision Making

Examples:

- Resolving customer complaints
- Deciding on the location of a new branch
- Choosing suppliers.

Database management systems are tools used to create and manage databases in an organization.



Introduction To Databases

- Database management technology is a major part of the software industry with revolutionary evolvement over 40 years. This evolvement continues today.
- Databases management technology provides the foundation to manage long-term memory of organizations.
- For example memory about customers, employees, orders, products and other important entities.



Introduction To Databases

- A very large part of your motivation is that the database field provides exciting and challenging employment opportunities.
- These employment opportunities are partially due to that dynamic nature of the database field with continuing innovation.
- You will find many opportunities to work in the database field.



Basic Definitions

- Most organizations has too much data and the emergence of web technologies such as mobile computing, e-commerce, websites have increased the amount of data that needs to be managed.
- For example all the data on your cell phone, tablets, Facebook, twitter, all your course information. This is a lot of data.



Basic Definitions

- Data - Known facts that can be recorded and have an implicit meaning. Are classified into two categories:
- Conventional facts – are numbers and text encountered daily - Examples are names, addresses, DOBs, sales analysis
- Unconventional facts usually known are media for example images shot on a cell phone, maps, product videos, engineering drawings, web pages, finger prints
- We'll be focusing on the transformations that convert data to information for decision-making. Raw facts need interpretation, combination, formatting etc., to be used for decision-making. The transformation from data to information may be as simple as formatting a number with currency symbols and commas.



Basic Definitions

- Database - A collection of related data. What do I mean by Related data?
- Database Management System (DBMS) - A software package or collection of programs used to create and manage databases. Examples are Oracle, SQL Server.
- Database System - The DBMS software together with the data itself. Sometimes, the applications are also included.
- Information: transformed data that has value for decision making.
- Essential to organize data for retrieval and maintenance.