

# DATABASES

- INDIVIDUAL
- COMPANY OR SHARED
- DISTRIBUTED
- COMMERCIAL

## TYPES OF DATABASE

- HIERARCHICAL DATABASE
- NETWORK DATABASE
- RELATIONAL DATABASE
- MULTIDIMENSIONAL DATABASE
- OBJECT ORIENTED DATABASE

## DATA MODELS

- DBMS ENGINE
- DATA DEFINITION SUBSYSTEM
- DATA MANIPULATION SUBSYSTEM
- APPLICATION GENERATION SUBSYSTEM
- DATA ADMINISTRATION SUBSYSTEM

## DATABASE MANAGEMENT

## DATABASES

- SHARING
- SECURITY
- LESS DATA REDUNDANCY
- DATA INTEGRITY

## REAL-TIME PROCESSING

ONLINE PROCESSING  
BECAUSE IT HAPPENS  
IMMEDIATELY DURING  
THE TRANSACTION

## BATCH PROCESSING

DATA IS COLLECTED  
OVER A PERIOD OF  
TIME AND THE  
PROCESSING HAPPEN  
LATER ALL OF ONE  
TIME

## KEY FEILD

KNOWN AS PRIMARY  
KEY:  
- SOCIAL SECURITY  
NUMBER  
- PART NUMBERS  
INVENTORY NUMBER

## DATA ORGANIZATION

- CHARACTER
- FIELD
- RECORD
- TABLE
- DATABASE



CHAPTER 12 : SYSTEMS ANALYSIS AND DESIGN

A **system** is a collection of activities and elements organized to accomplish a goal

- 1. Systems Audit
- 2. Periodic Evaluation

- 1. Types of Conversion
  - Direct approach
  - Parallel approach
  - Pilot approach
  - Phased approach
- 1. Training

**Rapid applications development (RAD)** uses powerful development software, small specialized teams, and highly trained personnel

- 1. Defining the Problem
- 2. Suggesting Alternative Systems
- 3. Preparing a Short Report

PHASE 1 :  
PRELIMINARY  
INVESTIGATION

**Prototyping** means to build a model or prototype that can be modified before the actual system is installed.

PHASE 2 :  
SYSTEMS ANALYSIS

- 1. Gathering Data
- 2. Analyzing the Data
- 3. Documenting Systems Analysis

PHASE 3 :  
SYSTEMS DESIGN

- 1. Designing Alternative Systems
- 2. Selecting the Best System
- 3. Writing the Systems Design Report

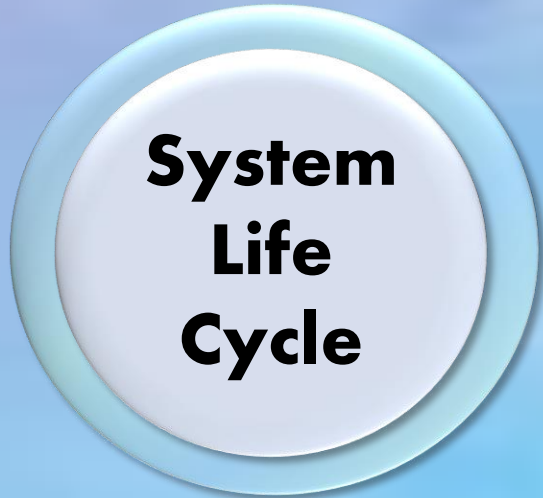
PHASE 4 :  
SYSTEMS DEVELOPMENT

- 1. Acquiring Software
- 2. Acquiring Hardware
- 3. Testing the New System

Career in IT :  
**Systems analysts** -plan and design new systems or reorganize a company's computer resources to better utilize them

PHASE 6 :  
SYSTEMS  
MAINTENANCE

PHASE 5 :  
SYSTEMS  
IMPLEMENTATION



**System  
Life  
Cycle**

