



# Purpose of Database Systems

By  
K.Karthikeyan

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

1/11



# Purpose of Database Systems



- Purpose of Database
  - Optimizes data management
  - Transforms data into information **Ex** – Adding , Update and Delete data
- Database management systems were developed to handle the following difficulties of typical file-processing systems supported by conventional operating systems:
  - Data redundancy and inconsistency
  - Difficulty in accessing data
  - Data isolation – multiple files and formats
  - Integrity problems
  - Atomicity problems
  - Concurrent access by multiple users
  - Security problems

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

2/11



## Data redundancy and inconsistency



- Data Redundancy
  - Data Redundancy means duplication of data at several places.
  - Ex : Format
- Data inconsistency
  - Data inconsistency occurs when various copies of same data may no longer get matched
  - Ex : address

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

3/11



## Cont..



- Difficulty in accessing data
  - The conventional file system does not allow to retrieve the desired data in efficient and convenient manner.
- Data isolation – multiple files and formats
  - File may be in different formats, it becomes to retrieve the desired data from the file for writing the new application

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

4/11



## Cont..



- Integrity problems
  - Data integrity mean data values entered in the database fall within a specified range and correct format.
- Atomicity problem
  - Atomicity problem mean particular operation must be carried out entirely or not at all with the database.

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

5/11



## Cont..



- Concurrent access by multiple users
  - For efficient execution, multiple users update data simultaneously, in such data need to be synchronized .
- Security problems
  - Every user is not allowed to access all the data of database system.

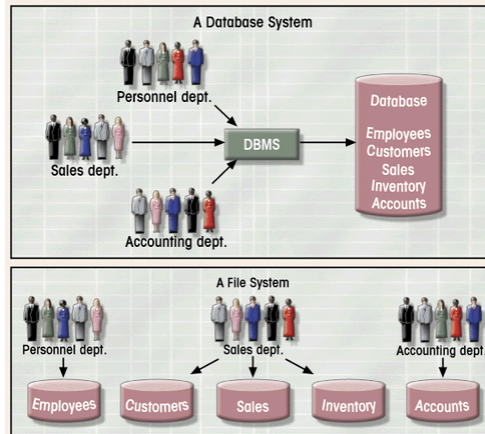
4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

6/11



# Database System vs. File System



Database Systems: Design, Implementation, & Management: Rob & Coronel



# Database System vs. File System



S.NO	DATABASE SYSTEM	CONVENTIONAL METHOD
1	Data redundancy is low	Data redundancy is high
2	Security is high	Security is low
3	Security constraints are high	Security constraints are low
4	Structured manner	Un- Structured manner
5	We can Retrieve the data in any desired formats	We cannot Retrieve the data in any desired formats
6	Data inconsistency is less	Data inconsistency is high



## Activity

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

9/11



## Filling in the blanks

S.NO	DATABASE SYSTEM	CONVENTIONAL METHOD
1	Data redundancy is _____	Data redundancy is _____
2	Security is _____	Security is _____
3	Security constraints are _____	Security constraints are _____
4	_____manner	_____ manner
5	We _____ Retrieve the data in any desired formats	We _____ Retrieve the data in any desired formats
6	Data inconsistency is _____	Data inconsistency is _____

4/29/2020

CS8492 DBMS/ IV SEM /K.KARTHIKEYAN/AP-CSE,SNSCE

10/11



Thank you