SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

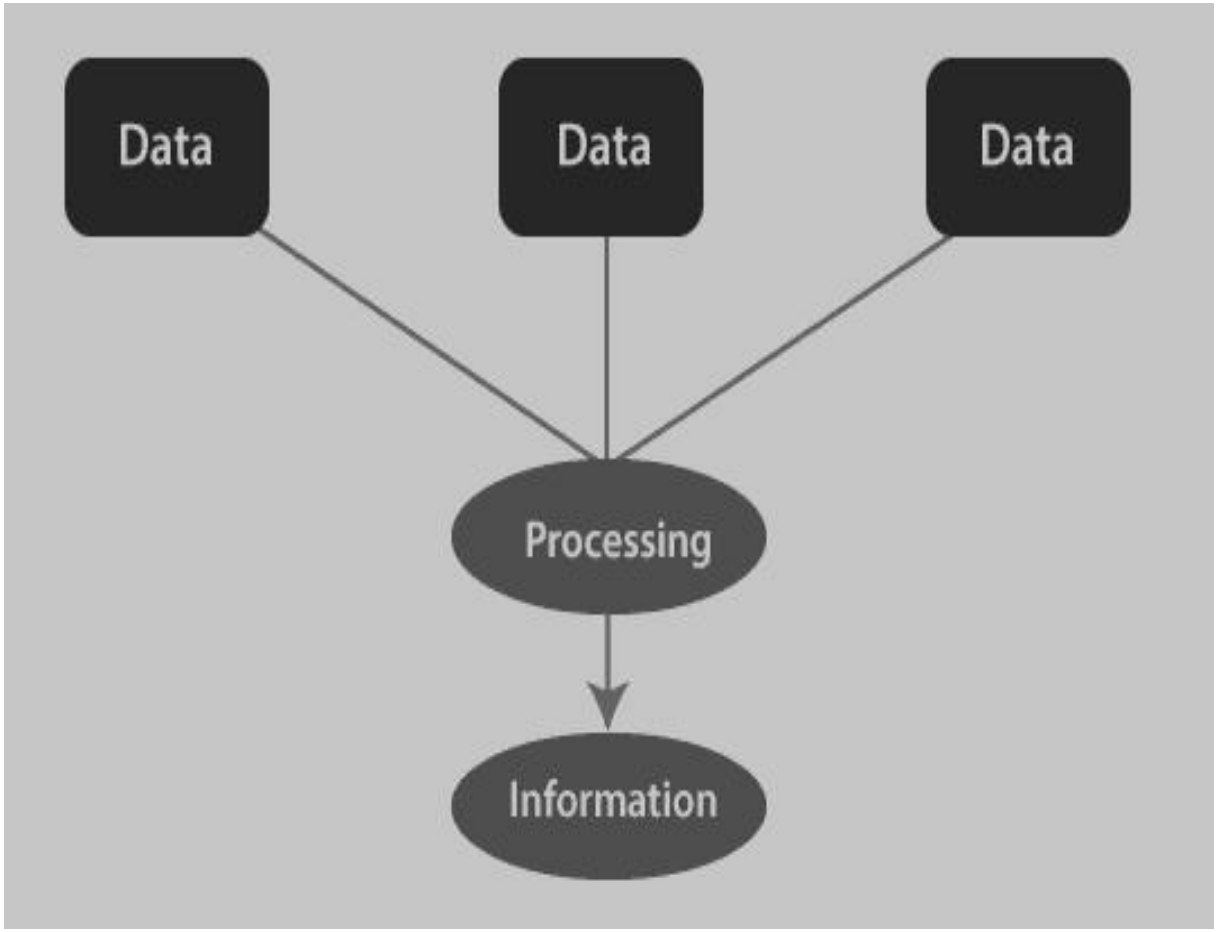
DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

COURSE NAME : 19CS402 - DATABASE MANAGEMENT SYSTEMS

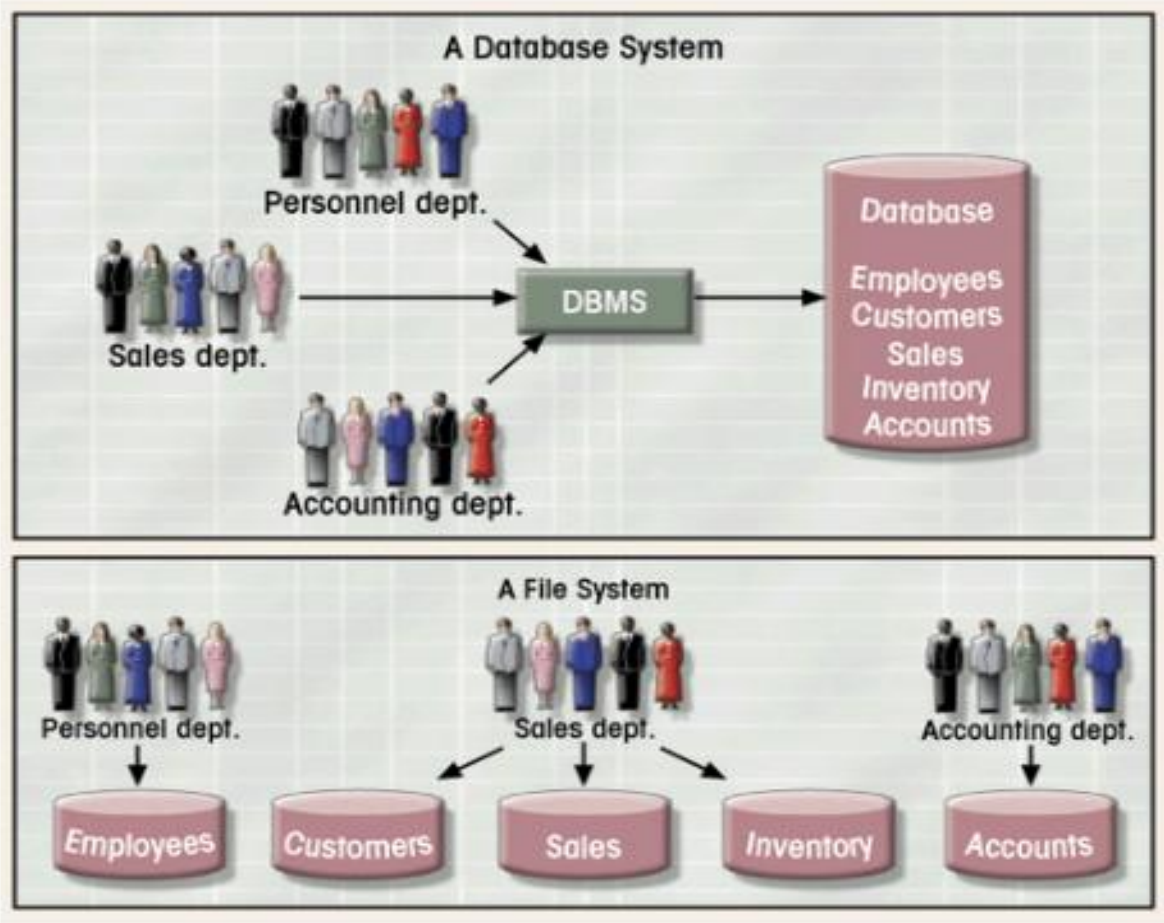
II YEAR / III SEMESTER

Topic 1 : Purpose of Database System

- **Data**
- Data is defined as raw facts. It gives the properties of a person or any organization.
- For example – Employee name, Product name, Name of the student, Marks of the student, Mobile number, Image etc.
- **Information**
- Processed data is called information. This is used for taking good decisions in an organization.
- For example: Report card sheet.
- **Knowledge**
- The human mind purposefully organizes the information and evaluates it to produce knowledge.


Data
Data
Data
Processing
Information

Database System vs. File System



Basis of differentiation	File Processing System	DBMS
Data redundancy & inconsistency	The problem of duplication and inconsistency in data exists in FPS.	There is no redundancy and inconsistency in data due to centralization of the database.
Ease of data access	Accessing data in file system isn't as easy as DBMS.	Accessing data is easier in DBMS as compared to a file system.
Data independence	There is no data independence in file system.	Data independence exists in DBMS.
Atomicity	Atomicity is not present in file system.	DBMS provides atomicity of transactions.
Concurrency control	It doesn't have concurrency control.	DBMS has concurrency control.
Recovery	File system doesn't provide the facility of recovery, in case of data loss.	DBMS provides the facility of data backup and recovery.
Security	Data security is less in file processing system.	DBMS offers high data security.
Cost	File system is relatively cheaper as compared to DBMS.	DBMS is costlier as compared to a file system.

APPLICATIONS OF DBMS

- Railway Reservation System
- Library Management System
- Banking
- Education Sector
- Credit card exchanges
- Social Media Sites
- Broadcast communications
- Online Shopping
- **Airline Reservation System**
- **Healthcare**

Advantages of Database Management System

- Better data transferring
- Better data security
- Better data integration
- Minimized data inconsistency
- Faster data Access:
- Better decision making
- **Better decision making**
- **Increased end-user productivity:**
- **Simple:**
- **Data abstraction:**
- **Reduction in data Redundancy:**

- **Application development:**
- **Scalability:**
- **Data sharing**
- **Data organization**
- **The atomicity of data can be maintained**
- **Data consistency and accuracy**
- **Improved data security**
- **Efficient data access and retrieval**
- **Scalability and flexibility**
- **Improved productivity**
- **Better decision-making**

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Thank you