



# **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 COMPUTER SCIENCE AND ENGINEERING(IoT and Cybersecurity Including BCT)**

**COURSE NAME : 19SB502 DATABASE MANAGEMENT SYSTEMS**

**III YEAR / V SEMESTER**

**Unit I- INTRODUCTION TO DATA BASE SYSTEM**

**Topic : Purpose of Database System**



The purpose of a database system is to efficiently and effectively manage and organize large volumes of data in a structured and systematic manner.

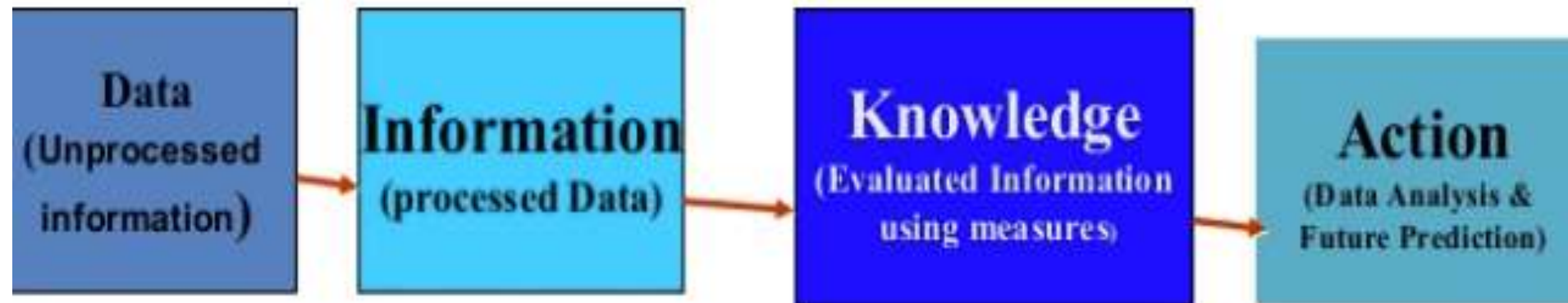
Databases play a crucial role in modern computing and are used in various applications and industries, including business, healthcare, finance, education, government, and many others.

Some key purposes and benefits of a database system are:

- 1. Data Storage:** Databases provide a centralized and secure repository for storing vast amounts of data. This ensures that data is persistent and can be accessed by multiple users and applications concurrently.

# Purpose of Database system/ Stages of Database System

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**2.Data Organization:** Databases use a structured format (such as tables) to organize data, making it easy to search, retrieve, and manage information. This structure enables efficient data management and reduces data redundancy.

**3.Data Integrity:** Database systems offer mechanisms to enforce data integrity, ensuring that data is accurate, consistent, and reliable. Constraints, rules, and validations are applied to prevent invalid or inconsistent data from being stored.

**4.Data Security:** Database systems provide various security features to control access to data. User authentication, authorization, and encryption help protect sensitive information from unauthorized access and ensure data privacy.



**5.Data Retrieval:** Databases support querying and retrieval of specific information based on various criteria, enabling efficient data retrieval and reporting. This ability is essential for generating insights and making informed decisions.

**6.Data Manipulation:** Database systems allow for data manipulation through operations such as insert, update, and delete, ensuring that data remains up-to-date and accurate.

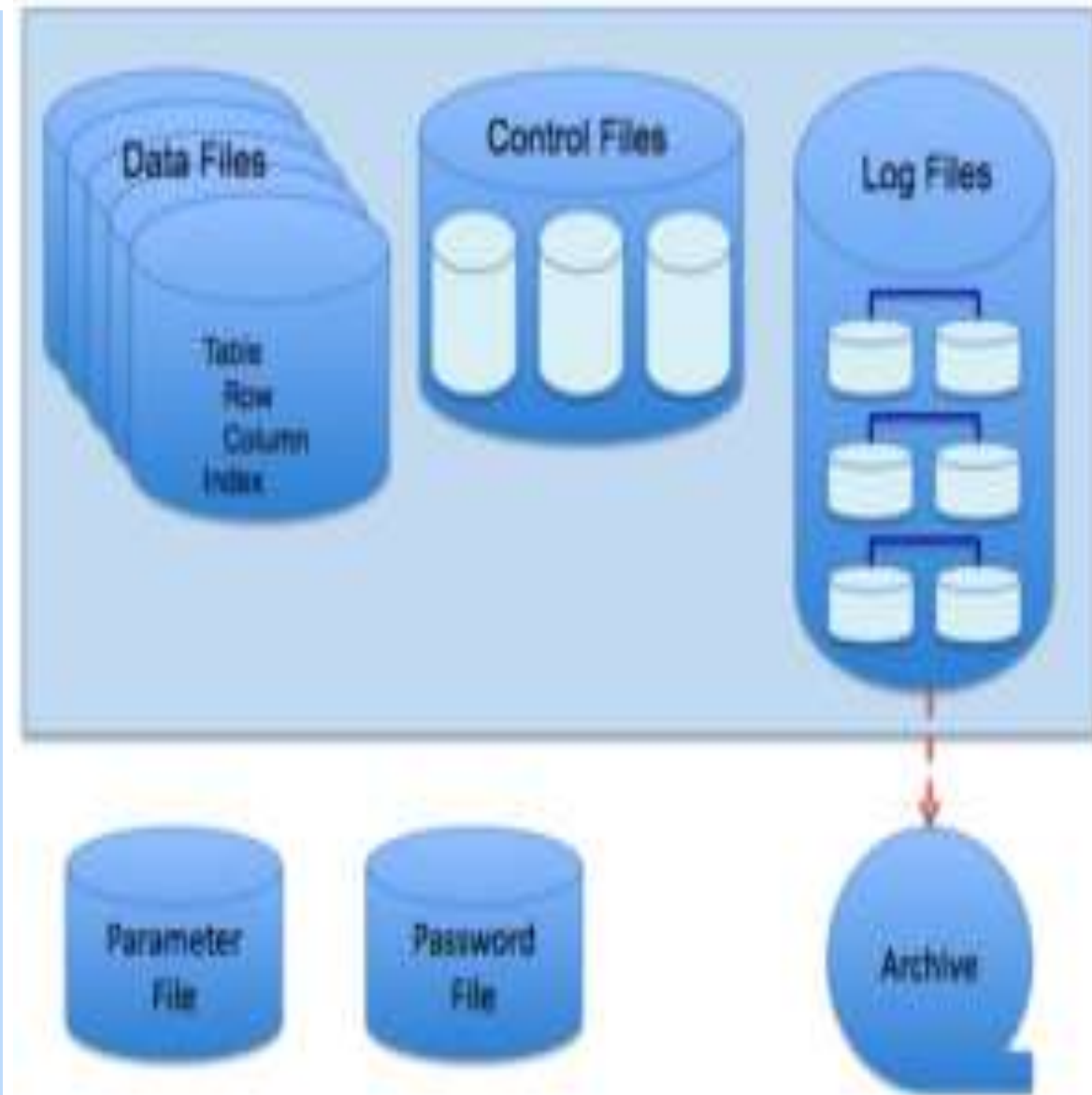
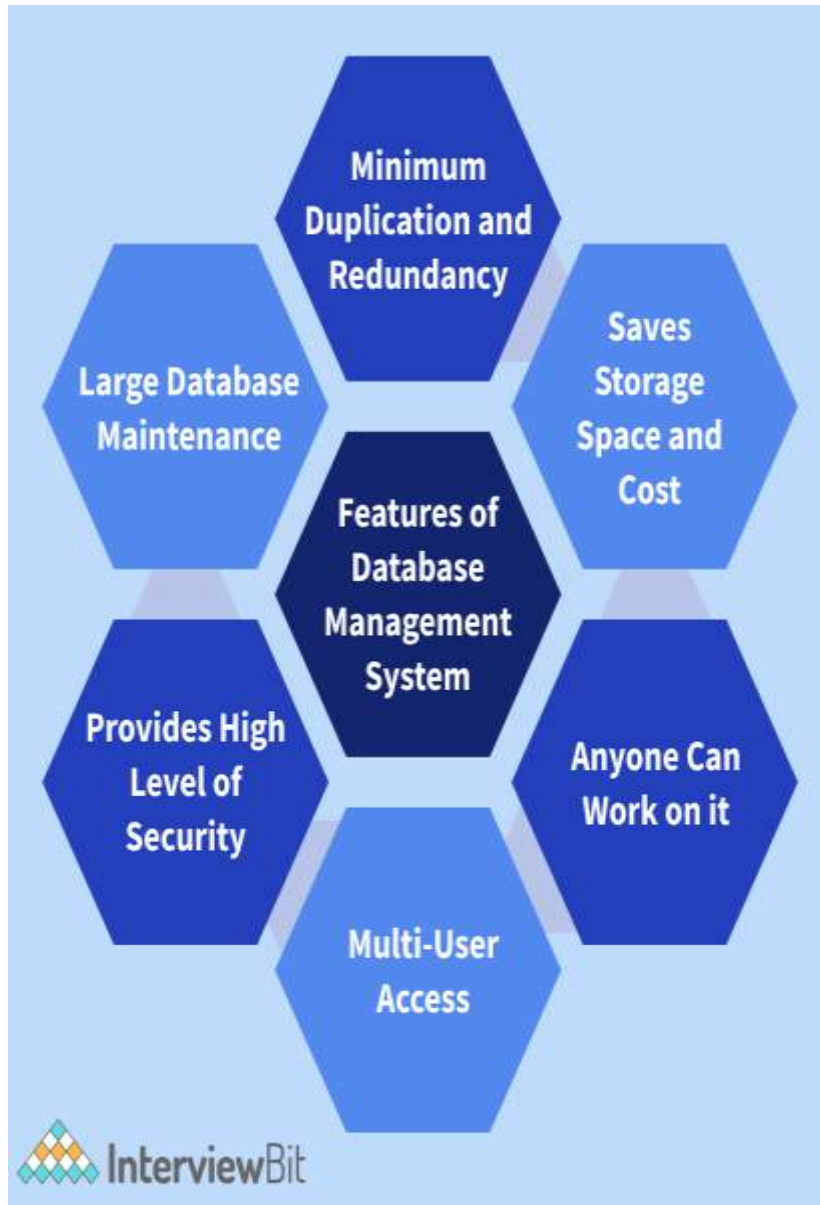
**7.Data Consistency:** In multi-user environments, databases maintain data consistency by employing techniques like transactions and concurrency control, ensuring that multiple users can access and modify data without conflicting with each other.



**8.Data Scalability:** Database systems are designed to handle large datasets and can scale to accommodate increasing amounts of data and users, making them suitable for growing businesses and applications.

**9.Data Recovery:** Databases implement backup and recovery mechanisms to protect against data loss due to system failures, human errors, or disasters. This helps ensure data continuity and business continuity.

**10.Data Sharing:** Database systems enable data sharing among multiple users and applications, fostering collaboration and integration across different parts of an organization.





## Summary:

Database systems are essential tools for managing and leveraging data effectively, which is crucial for making informed decisions, optimizing business processes, and supporting various applications in today's data-driven world.





Any Query????

Thank you.....