DATABASE ASSIGNMENT 1

21K-3153

Q1)

Ans) Database provide a number of benefits over file systems. 1.Databases provide data security as they have a wider range of security mechanisms.

2.Data storage and retrieval are easier and more efficient in databases rather than file systems.

3.File systems do not provide data recovery services while most database systems do.

4. File systems can lead to data inconsistency and lack of data integrity.

DBMS do not need to be used when using them means unnecessary overhead costs. DBMS are expensive as funds go towards hardware, software, training, security, recovery and integrity functions.

DBMS also do not need to be used in embedded systems with limited storage capacities.

If multiple users do NOT need to access the same data, DBMS does not need to be used.

Q2) Ans) A DBA needs to:

1. Manage database access and permissions.
2. Ensure that the database meets user requirements.
3. Review DBMS security and integrity.
4. Managing data backup and recovery.
5. Improve query processing performance.

Even if a DBA is not aiming to run their own queries, they still need to be very familiar with query optimization as it will allow them to make database commands more efficient for users, protect the database from threats, ensure consistency and integrity and improve query processing performance.

Improving query optimization is one of the main jobs of a DBA to ensure that commands run quickly and smoothly for its users.

Q3) Ans) The data model represents information about the real world in a database.

The Conceptual Data Model provides concepts that are very close to how users perceive data in the real world, with entities representing real life objects and Relationships representing connections between entities.

Implementation Data Models represents data as structures and Physical Data Models represent data as being stored in files.