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DBMS Assignment 1

1] Explain advantages of DBMS over file systems?

→ The advantages of DBMS over file system are as follows:-

1] Sharing of Data:- Due to centralized approach, Data Sharing is very easy whereas in file system Data is distributed in many files and it may be of different formats, so it isn't easy to share Data.

(2) Data Abstraction:- DBMS gives an abstract view of data that hide the details where data is abstract from the user, whereas in file system provider the detail of data representation and storage of data.

(3) Manipulation Techniques:- DBMS contains a wide variety of sophisticated techniques to store and retrieve data.

(4) Security and protection:- DBMS gives a good protection Mechanism, whereas it isn't easy to protect file under the file system.

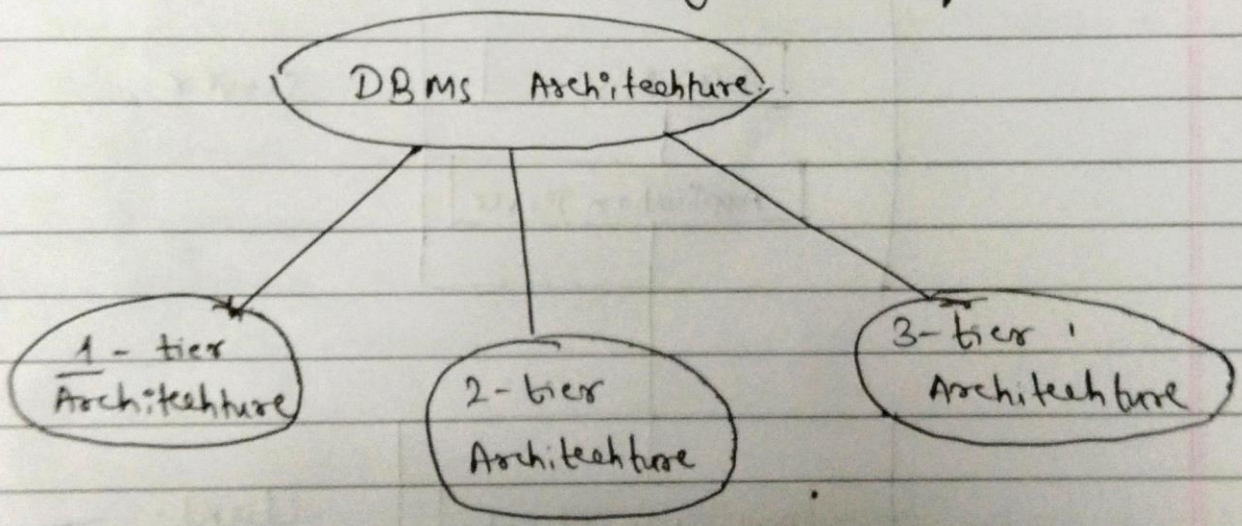
(5) Data Concurrency:- DBMS takes care of concurrent access of data using some form of locking. whereas in file system, concurrent access has many problems like redirecting the file while deleting some information.

(6) Flexibility:- The flexibility of CRUD operations of DBMS approach is easy than file system.

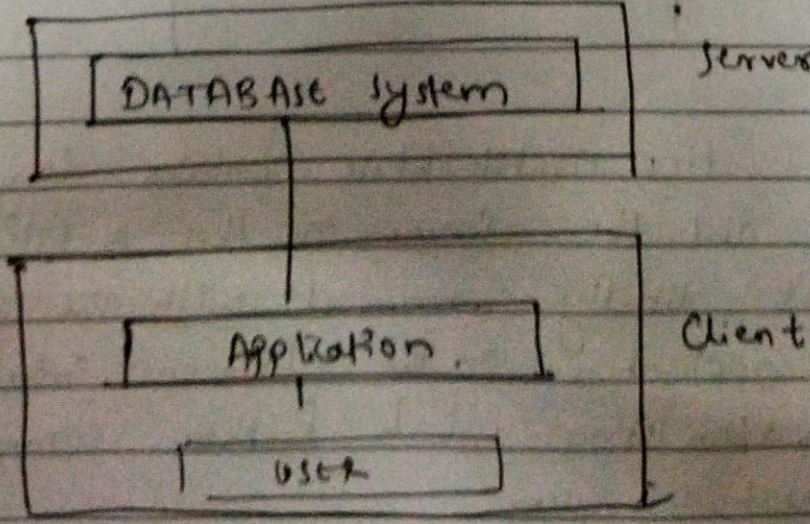
(2) Explain Database Architechture in Detail with appropriate Diagram?

→ The basic client/server architechture is used to deal with a large number of PCs, web servers, database servers and other components that are connected with networks.

DBMS Architechture depends upon how users are connected to the database to get their request done.



Logically, database Architechture is of two types like 2-tier Architechture and 3-tier Architechture.

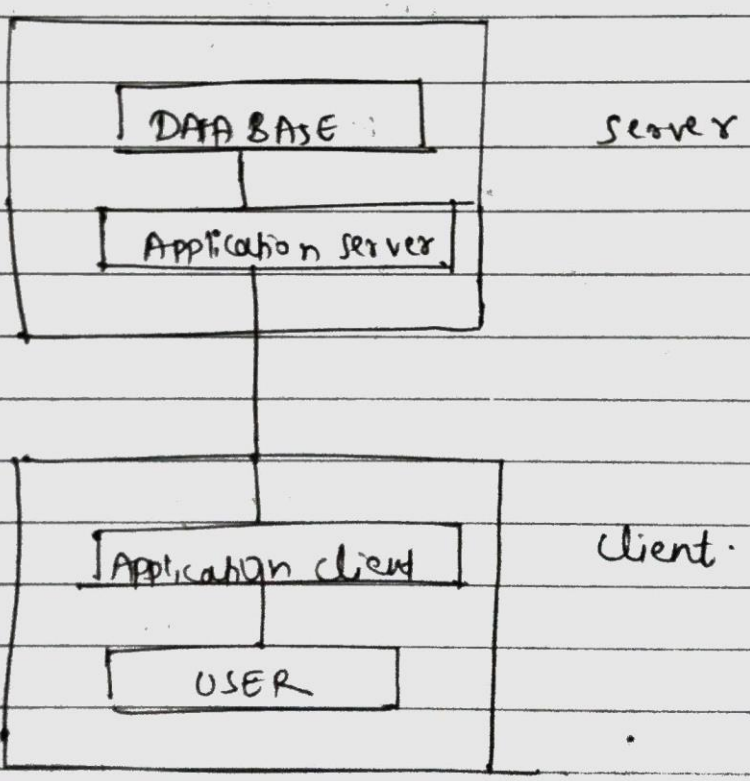


2-tier Architechture.

In two tier Architecture, applications on the client end can directly communicate with the database at the server side. for this interaction, Api's like ODBC, JDBC are used.

→ The user interfaces and applications are run on the client side.

3-Tier Architecture:-



The 3- tier architecture contains layer between the client and the server. In this Architecture, client can't directly communicate with the server. The application on the client end interacts with an application server which further communicates with the database system.

The 3 tier architecture is used in case of large web application.

(3) Explain Role of Database Administrator?

→ A Database Administrator (DBA) is a person or group in charge of implementing DBMS in an organisation. The ~~DB~~ primary role of Database Administrator is as follows:-

1. DATABASE Design.
2. performance issues.
3. Database Accessibility.
4. Capacity issues.
5. Data Replication.
6. Table Maintenance

Responsibilities of DATABASE Administrator are as follows:-

1. Makes the decision concerning the content of Database.
2. plans the storage structure and access strategy.
3. provides the support to the users.
4. Defines the security and integrity checks.
5. integrates backup and recovery strategies.
6. Monitoring the performance and responding to the changes in the requirements.