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FYCS

Assignment 1

1] What is DBMS?

→ A database management system (DBMS) is a software designed to store, retrieve, define and manage data in a database. An advantage of the database management approach is, the DBMS helps to create an environment in which end users have better access to more and better managed data. It also provides a ~~better~~ framework for better enforcement of data privacy and security policies.

2) What is data abstraction?

Data abstraction refers to providing only essential information to the outside world and hiding their background details, i.e, to represent the needed information in program without presenting the details. There are three levels -

i) View level - This level tells the application about how the data should be shown to the user.

ii) Conceptual level - This level tells how the data

iii] Physical level - It tells the actual location of the data that is being stored by the user.

3] Who is database administrator?

→ A database administrator is a specialized computer systems administrator who maintains a successful database enviroment by directing or performing all related activities to keep the data secure. The database administrator often collaborates on the initial installation and configuration of a new software. A DBA is also responsible for extraction, data handling, data security and data recovery.

4] Why data models are used in database?

→ Data models define how the logical structure of a database is modeled. A data model supports

i] Data set - contains the logic to retrieve data from a single data source.

ii] Parameters - a variable whose value can be set at runtime

iii] List of values - a menu of values which helps selecting which parameter to set.

5] Define the following :-

i] Entity - Real world objects which have existence in the world.

ii] Attribute - An attribute is the number of ~~cow~~ columns in a table.

iii] Relationship - helps to share and store the data in seperate tables.

iv] Tuple - The tuple iis a simply a row contain in the tablespace.

v] Degree - the number of ~~rows~~ attributes in a table.

vi] Cardinality - refers to the number of rows.

6] Write a note on the following :-

a] Primary key - A primary key is either an existing an existing table column or a column that is specifically generated by the database according to a defind sequence.

b] Alternate key - An alternate key is a key associated with one or more columns whose values uniquely identify every row in the table.

c] Candidate key - a unique key to identify a record uniquely in a table, a table can have multiple Candidate keys.

d] Attribute and its types - An attribute is a property or characteristic of an entity. There are 5 types of attributes - Simple, composite, single valued, multi valued and derived value.

e) Strong entity - the one whose existence does not depend on the existence of any other entity in a schema. It is denoted by a single rectangle.

f) Generalization - is like a bottom-up approach in which two or more entities of lower levels combine to form a higher level entity if they have some attributes in common

7) Explain relationship with its types?-

- A relationship in the context of database is a situation that exists between two relational databa tables when one table has a foreign key that refere the primary key of the other table. Relationships allow relational databases to split and store data in different tables, while linking disparate data items.