Roll No:- BCSF19A528

Assignment #1

Concurrent Access:

Concurrent access in a database refers to the situation where the database is being accessed from more than one connection (user) at a time.

Data Administration:

Data administration means identifying data and needs of enterprise with respect to data, deciding what data should be stored, establishing policies for maintaining and dealing with stored data.

Database:

A database is a data structure that stores organized information. Most databases contain multiple tables, which may each include several different fields.

Eg:

Company database contains tables for products, employees, and financial records.

Database System:

Database Management System (DBMS) is an application which holds user data permanently and then provide different operations on this data e.g. retrieval of data, insertion of data, updation of data etc.

DBA:

Database administrator (DBA) is the information technician responsible for directing or performing all activities related to maintaining a successful database environment. A DBA makes sure an organization's database and related applications operate functionally and efficiently.

Integration:

Integration involves containing data from several desparate resources, which are stored using various technologies and provide as unified data.

⇒ Data stored in multiple files that can be shareable.

Integrity:

Integrity means correctness of data i.e data is based on defined rules and regulations.

Persisent data:

Persistent data refers to the information that is infrequently accessed and not likely to be modified.

Redundancy:

Redundancy means the same data is repeated multiple times in a data base. It makes data inconsistent.

Security:

Security means data is accessed by authorized users only. and the authorized users can perform only priveleged tasks.

Data dictionary:

Data dictionary also called catalog ~~includes~~ mata data, i.e. data about data. It is used to manage data in DBMS.

Sharing:

Sharing of data refers to sharing same data resources with multiple applications or users.

Distributed Database:

A distributed database is a collection of multiple interconnected databases, which are spread physically across various locations that communicate via a computer network.

DDL:

Data definition language (DDL) is a subpart of SQL. It helps to create structures and has 3 commands:

1) create table.
2) drop table.
3) alter table.

DML

Data Manipulation Language (DML) is also a subpart of SQL. It is used to manipulate data in database. It has following 3 commands:

1) insert
2) delete
3) update.

Assignment #2

- **Name of relation:**
  Parts and Supplies.
- **heading of relation:**

For Parts:

P#, P.Name, Color, weight, city.

For Supplies:

S#, P#, Qty

- **Cardinality:**

In Parts relation:

cardinality is 6.

In Supplies table:

cardinality is 12.

- **degree:**

Parts table: 5

Supplies table: 3

- **domain of each attribute:**

Parts Table: B.

P#: { Alphanumeric characters

P.Name: Alphabetic character (any part name)

Color: Alphabetic characters (any color)

Weight: Numeric value (any possible weight)

City: Alphabetic character (any Pakistani city)

Supplies Table:

S#: Alphanumeric character

P#: Alphanumeric characters

Quantity: Numeric value (any possible quantity)

Q2: The maximum number of elements in each attribute will be 13 as the cardinality is 13.

Quiz #1.

Q1: possible candidate keys:

user Id, ID

Q2: cardinality:

12

lowest possible degree:

4

Q3: Restricted:

Only these values can be entered in child table which exist in parent table.

Cascade:

While removing value/record from parent table, it must be removed from child table first.

Q4: Example of repeating group:

Several employees can have same first name or same last name or same salary, which is an example of repeating group.

Quiz #2

- Cardinality of A = 12 , degree of A = 4
- cardinality of B = 10 , degree of B = 4
- cardinality of A union B = 20.

- cardinality of A intersection B:
  2
  degree of A intersect B:
  4
- cardinality of A Times B:
  120
  degree of A Times B:
  8
- degree of A UNION B:
  4
- cardinality of A MINUS B:
  10
  degree of A MINUS B:
  4
- cardinality of B MINUS:
  8
  degree of B MINUS A
  4