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COHORT 11, LUMINARIES.

ATTEMPT ALL QUESTIONS AND YOU PERMITTED TO MAKE MINIMAL

RESEARCH

1. What are the disadvantages of File processing?

Ans:

1)Data redundancy

2)Data isolation

3)Concurrent Access: Accessing the same data from the same file is called concurrent access.

In the file system,concurrent access leads to incorrect data.

4)Data inconsistency

2. What is DBMS? Explain advantages and disadvantages of DBMS.

Ans:

Data Base Management System is a software for storing and retriving

user's data while considering appropriate security measures.

Advantages;

1. Increasing efficiency of data exchange
2. Increases Data Protection
3. Maintaining the Integrity of Data
4. Back-up and Recovery.

Disadvantages;

1. Hardware and Software Requirements
2. Scale and complexity of management
3. Frequent updates
4. Failure has a significant impact: Any malfunction in a file may affect all th other processes, which will interrupt the whole process and there will be a complete standstill.
5. What are the different components of DBMS?

Ans:

Software, Hardware, Procedure, Data, Users

1. Explain Data anomalies.

Ans:

Data anomalies are inconsistencies in the data stored in a database as a result of an operation such as update, insertion, and/or deletion.

1. Explain Hierarchical Data Model.

Ans:

This is ranking of members of Data Model according to relative status. E.g tree structure

1. Explain Relational Database Model.

Ans:

The Relational Model(RM) is an approach to managing data using a structure and language consistent first-order predicate login.

1. Explain Entity Relationship Model.

Ans:

This is a list of all entities and attributes as well as well relationships between the entities that are of importance. These entities provide background information such as entity descriptions, data types and constraints

8)What is a Table and explain its characteristics?

Ans:

A table is a two-dimensional structure composed of rows and columns. This is also referred as relational model’s creator.

9)Explain different types of keys available in Relational Model.

Ans:

1. Super Keys: defined as set of attributes within a table that can uniquely identify each record within a table. This is a superset of Candidate key.
2. Candidate keys: are defined as the minimal set of fields which can uniquely identify each record in a table. It is an attribute or a set of attributes that can act as a Primary Key for a table to uniquely identify each record in that table. There can be more than one candidate key.
3. Primary key: is a candidate key that is most appropriate to become the main key for any table. It is a key that can uniquely identify each record in a table.

10)Explain Database Integrity rules.

Ans:

Integrity Rules are imperative to a good database design. Most RDBMS have these rules automatically, but it is safer to just make sure that the rules are already applied in the design. There are two types of integrity mentioned in integrity rules, entity and reference. Two additional rules that aren't necessarily included in integrity rules but are pertinent to database designs are business rules and domain rules.

11)Explain different types of joins.

Ans:

## a)Inner Join

**Inner Join** is used to return rows from both tables which satisfy the given condition. It is the most widely used join operation and can be considered as a default join-type

## b)Theta Join

**Theta Join** allows you to merge two tables based on the condition represented by theta. Theta joins work for all comparison operators. It is denoted by symbol **θ**. The general case of JOIN operation is called a Theta join.

## c)EQUI Join

**EQUI Join** is done when a Theta join uses only the equivalence condition. EQUI join is the most difficult operation to implement efficiently in an RDBMS, and one reason why RDBMS have essential performance problems.

## d)Natural Join (⋈)

**Natural Join** does not utilize any of the comparison operators. In this type of join, the attributes should have the same name and domain. In Natural Join, there should be at least one common attribute between two relations.

It performs selection forming equality on those attributes which appear in both relations and eliminates the duplicate attributes.

1. What do you understand by functional dependency?

Ans:

Functional Dependency is when one attribute determines another attribute in a DBMS system.

Axiom, Decomposition, Dependent, Determinant, Union are key terms for functional dependency

1. List the characteristics of a Relation

Ans:

a) Each **relation** in a database must have a **distinct or unique name** which would separate it from the other relations in a database.

b) A relation must **not** have **two attributes** with the **same name**. Each attribute must have a distinct name.

c) Duplicate tuples must **not** be present in a relation.

d) Each tuple must have exactly **one data value**for an **attribute**.

e)Tuples in a relation do not have to follow a significant order as the relation is not order-sensitive.

14. Explain the Union and Decomposition

Ans:

The Union is a binary set operator in DBMS. It is used to combine the result set of two select queries. Thus, It combines two result sets into one. In other words, the result set obtained after union operation is the collection of the result set of both the tables.

Decomposition is a process that removes redundancy, anomalies, and inconsistencies from a database by the process of dividing the entire table into smaller tables. It can further be classified as Lossy and Lossless.