

15 Lecture - CS403

Important Subjective

1. **What is the relationship between sets and relations in mathematics?**

Answer: Sets and relations are closely related in mathematics, as a relation is a set of ordered pairs that relate elements from two or more sets.

How is the concept of cardinality used in database design?

Answer: Cardinality is used to specify the number of elements that can be present in a relationship between two tables in a database.

What is the purpose of the primary key in a table?

Answer: The primary key is used to uniquely identify each record in a table and is an important part of ensuring data consistency and accuracy.

What is normalization in database design?

Answer: Normalization is the process of organizing data in a database to reduce redundancy and improve data consistency.

How is the concept of functions used in database design?

Answer: Functions are used in database design to perform calculations and manipulate data in tables.

What is the difference between a one-to-many and a many-to-many relationship in database design?

Answer: A one-to-many relationship indicates that each record in one table can have multiple corresponding records in another table, while a many-to-many relationship indicates that each record in both tables can have multiple corresponding records in the other table.

What is the purpose of foreign keys in a table?

Answer: Foreign keys are used to establish relationships between tables in a database and are a key component of data integrity.

How is the concept of set theory used in database design?

Answer: Set theory is used to model relationships between data in a database and to ensure data consistency and accuracy.

What is the role of SQL in database management?

Answer: SQL is a programming language used to manipulate and manage data in a database.

How can a database be used to improve data security?

Answer: A database can be used to restrict access to sensitive data and to track changes and access to data over time.