

17 Lecture - CS101

Important Subjective

1. **What is a data model?**

Answer: A data model is a conceptual representation of the data that is stored in a database. It defines the structure, relationships, and constraints of the data.

2. **What is the most widely used data model in modern database systems?**

Answer: The relational model is the most widely used data model in modern database systems.

3. **What is a database management system (DBMS)?**

Answer: A DBMS is a software system that manages the storage, retrieval, and manipulation of data in a database.

4. **What is data integrity?**

Answer: Data integrity refers to the accuracy and consistency of the data in a database. It is maintained through a set of constraints that ensure that the data meets certain standards.

5. **What is a primary key constraint?**

Answer: A primary key constraint ensures that each record in a table is uniquely identified by a specific attribute or set of attributes.

6. **What is a foreign key constraint?**

Answer: A foreign key constraint ensures that the relationship between two tables is maintained, by requiring that a record in one table must exist in another table.

7. **What is a check constraint?**

Answer: A check constraint ensures that the data in a table meets a specific set of criteria, such as a range of values or a pattern.

8. **What is data normalization?**

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

9. **What is a first normal form (1NF)?**

Answer: In the first normal form, each table has a primary key, and all attributes in the table are atomic, meaning they cannot be further broken down.

10. **What is third normal form (3NF)?**

Answer: In third normal form, each attribute in a table is dependent only on the primary key, and not on any other attributes in the table.