MAJLIS ARTS AND SCIENCE COLLEGE PURAMANNUR

Computer Science Department

DBMS – MODULE - 2

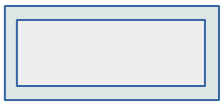
Majlis Arts and Science College,
Puramannur
Affiliated to the University of Calicut,
approved by the Government of Kerala,

DBMS

Questions and answers based on SECOND MODULE (first session)

1. ER model uses ---- symbol to represent week entity set

a)



2. Key to represent relationship between 2 tables is called -----

a) Foreign key

3. The person who proposed relational model is---

A) Edgar F. Codd

4. The person having central control over both data and programs accessing that data is called--

a) DBA (Database Administrator)

5. In a relational database a referential integrity constraint can be specified with the help of ---

a) Foreign Key

6. --- are the properties of entities

a) Attributes

7. A ------- is a rule that is used for optimization purposes in a database

a) Constraint

8. The number of entities to which another entity can be associated via a relationship set is expressed as ---

a) Mapping cardinality

9. A top to bottom relationship among the items in a database is expressed by a ----

a) Hierarchical schema

10. --- express the number of entities to which another entity can be associated via relationship set

a) Mapping cardinality

11. Define Entity Set

*a) **Entity Set** is a collection or a group of '**entities**' sharing exactly the 'same **set** of attributes'.*

12. Define relationship set

a) A relationship set is a set of relationships of the same type

13. What is an Attribute?

*A) An attribute is an element that takes a value and is associated with an object.eg name, a*ge

14. Define Domain

a) A domain is a unique set of values permitted for an attribute in a table. For example, a domain of month-of-year can accept January, February…. December

15. Define entity

*a) An **Entity** is a thing or object in real world that is distinguishable from surrounding environment*

16. Define composite attribute.

a) Composite attributes are made of more than one simple attribute

17. Define derived attribute.

a) A derived attribute is an attribute whose value is calculated from other attributes. It need not be physically stored within the database

18) What is primary key and foreign key

a) Primary key uniquely identify a record in the table. Foreign key is a field in the table that is primary key in another table

19. What is superkey?

*a) **superkey** is a set of attributes within a table whose values can be used to uniquely identify a tuple. A candidate **key** is a minimal set of attributes necessary to identify a tuple; this is also called a minimal **superkey***

20. Define relationship

a) A relationship, in the context of databases, is a situation that exists between two relational database tables when one table has a foreign key that references the primary key of the other table

21. Define Week entity and strong entity

*a) A **weak entity** is an **entity** that cannot be uniquely identified by its attributes alone. A **strong entity** is not dependent of any other **entity** in the schema. A **strong entity** will always have a primary key*

22. Compare week and strong entities

a) ***Strong entity** is not dependent of any other **entity**.*
*The **strong entity** has a **primary key**.*
***Weak entity** is depending on **strong entity**.*
*A **weak entity** has the **partial key***

23. Define ER model

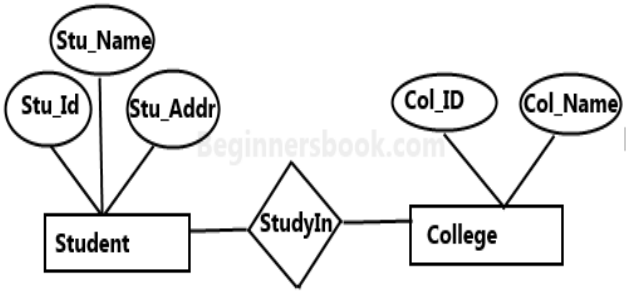
*a) **Entity Relationship Model**(ER Modelling) is a graphical approach to database design. It is a high-level data model that defines data elements and their relationship for a specified software system. An ER model is used to represent real-world objects.*

24. What is an Entity Relationship Diagram (ER Diagram)?

a) An ER diagram shows the relationship among entity sets. An entity set is a group of similar entities and these entities can have attributes. In terms of DBMS, an entity is a table or attribute of a table in database, so by showing relationship among tables and their attributes, ER diagram shows the complete logical structure of a database. Let's have a look at a simple ER diagram to understand this concept.

E.g.:

In the following diagram we have two entities Student and College and their relationship. The relationship between Student and College is many to one as a college can have many students however a student cannot study in multiple colleges at the same time. Student entity has attributes such as Stu_Id, Stu_Name & Stu_Addr and College entity has attributes such as Col_ID & Col_Name.



25. Explain conceptual data model for database design

a) Conceptual Model

The main aim of this model is to establish the entities, their attributes, and their relationships. In this Data modelling level, there is hardly any detail available of the actual Database structure.

The 3 basic tenants of Data Model are

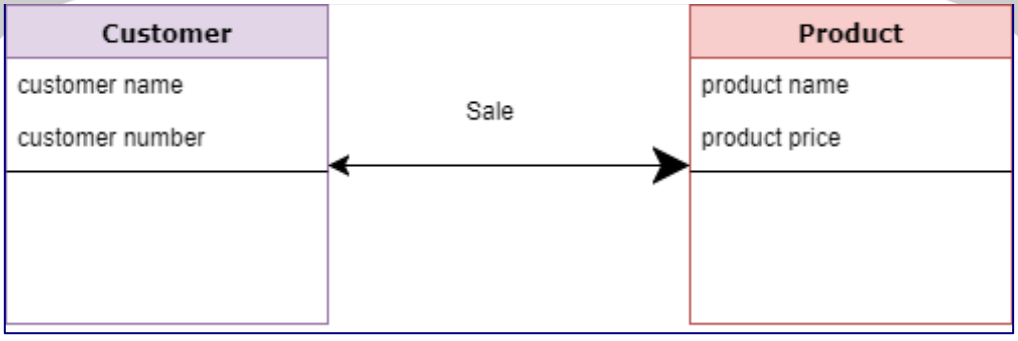
***Entity**: A real-world thing*

***Attribute**: Characteristics or properties of an entity*

***Relationship**: Dependency or association between two entities*

For example:

- *Customer and Product are two entities. Customer number and name are attributes of the Customer entity*
- *Product name and price are attributes of product entity*
- *Sale is the relationship between the customer and product*



Characteristics of a conceptual data model

- *Offers Organisation-wide coverage of the business concepts.*
- *This type of Data Models are designed and developed for a business audience.*
- *The conceptual model is developed independently of hardware specifications like data storage capacity, location or software specifications like DBMS vendor and technology. The focus is to represent data as a user will see it in the "real world."*

26. Explain Enhanced Entity Relationship (EER) Model

a) Enhanced Entity Relationship (EER) Model is a high-level data model which provides extensions to original Entity Relationship (ER) model. EER Models supports more details design. EER Modelling emerged as a solution for modelling highly complex databases. EER uses UML notation. UML is the acronym for Unified Modelling Language; it is a general-purpose modelling language used when designing object-oriented systems. Entities are represented as class diagrams. Relationships are represented as associations between entities. The diagram shown below illustrates an ER diagram using the UML notation.