

ID: 11757

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SUBJECT: DATABASE SYSTEM

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Q :

1: CANDIDATE KEY: Candidate key is a set of attribute that unique identify tuples in a table.

candidate key is a super key with no repeated attributes.

the primary key should be selected from candidate keys.

every table must have at least a single candidate key.

A table can have multiple candidate keys but only a single primary key.

PROPERTIES OF CANDIDATE KEY: It must contain unique key.

candidate may have multiple attributes.

must not contain null values.

It should contain minimum fields to ensure uniqueness.

uniquely identify each record in a table.

EXAMPLE: In the given table student ID cell are candidate keys which helps us to uniquely identify the student record in the table.

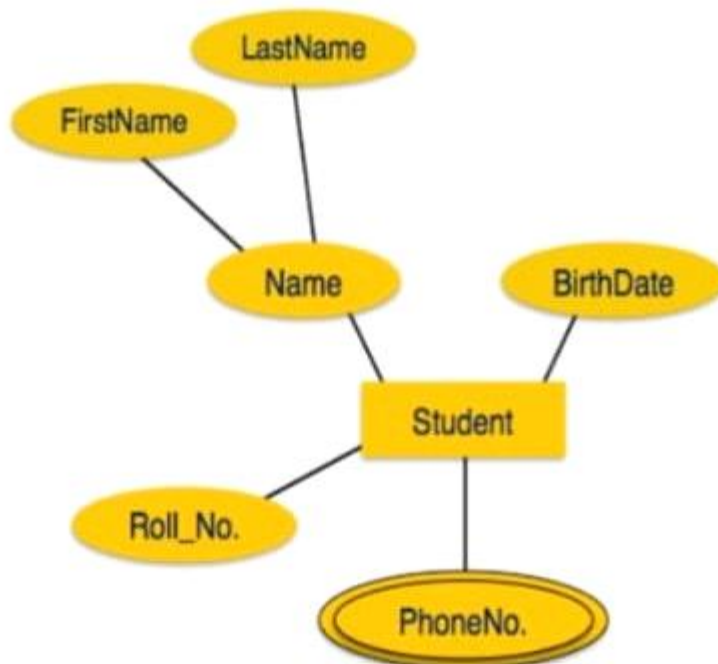
CONDIDATE KEY:

| Name | semester | Department | cell |
|--------|----------|------------|-------------|
| Sania | 1 | CS | 03334324234 |
| Romana | 1 | CS | 03335399128 |
| Alina | 1 | CS | 03150034224 |
| Ayesa | 3 | CS | 03455559822 |

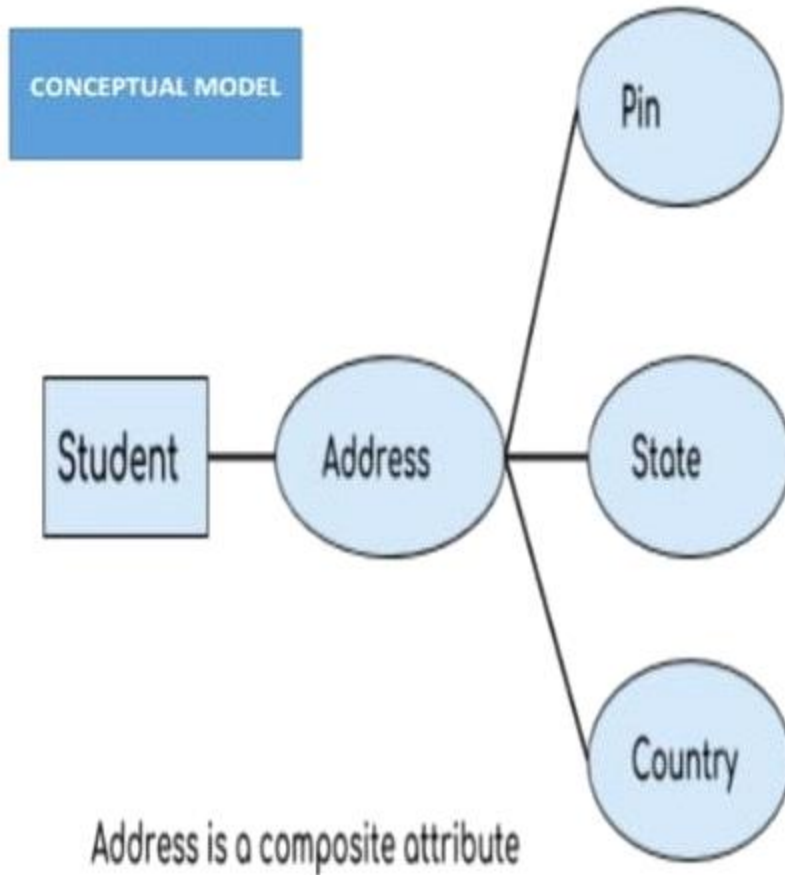
2: DATA REDUNDANCY: Data redundancy is the repetition or superfluity of data. Data redundancy data is an common issue in computer data storage and database systems. Data redundancy definition. Data redundancy in database means that some data fields are repeated in the database.

DATA INTEGRITY: Data integrity is the maintenance of and the assurance of the accuracy and consistency of data over its entire life cycle and is a critical aspect to the design implementation and usage of any system which stores processes or retrieves data.

3: MULTIVALUED ATTRIBUTE: An attribute that can hold multiple values is known as a multivalued attribute. It is represented with double ovals in an ER diagram. For example, a person can have more than one phone number, so the phone number attribute is multivalued.



COMPOSITE ATTRIBUTE IS REPRESENTED IN CONCEPTUAL MODEL:



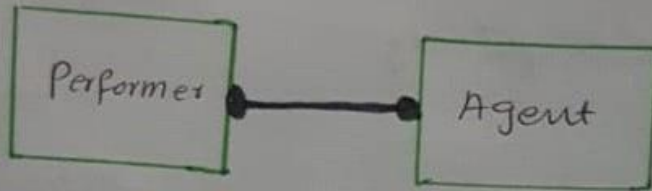
4: Doing rapid development of database applications in a busy corporate setting extensive constraints automated tests error logs and defensive coding the maintenance task fixing bugs and deploying the fixes cleaning data dealing with concurrency dueries issue.

5:

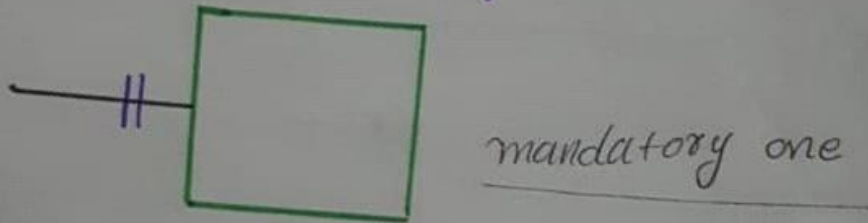
i) mandatory one :-

In a mandatory relationship, every instance of one entity must participate in a relationship with another entity

e.g



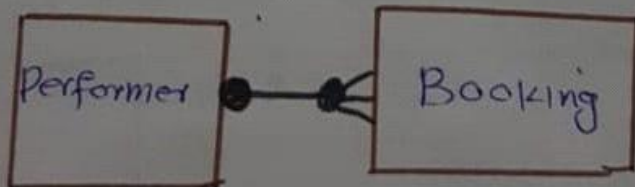
Relationship cardinality: (OR)



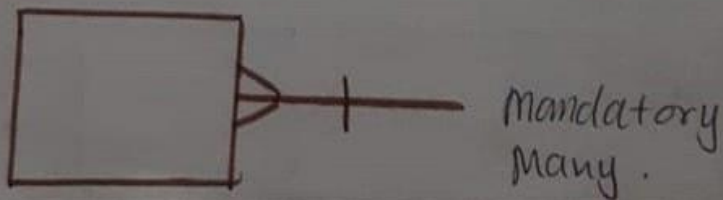
ii) mandatory many :-

In a mandatory relationship, every instance of more than one entity must participate in relationship with another entity.

e.g



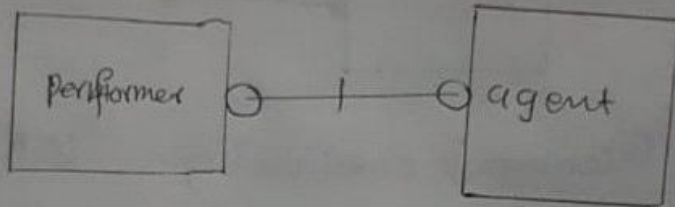
(OR)



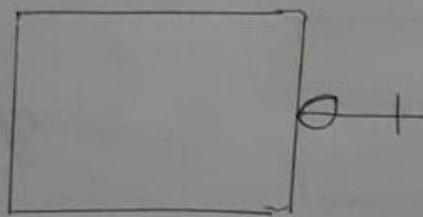
iii) optional one :-

In an optional relationship, any instance of one entity might participate in a relationship with another entity, but this is not compulsory

e.g

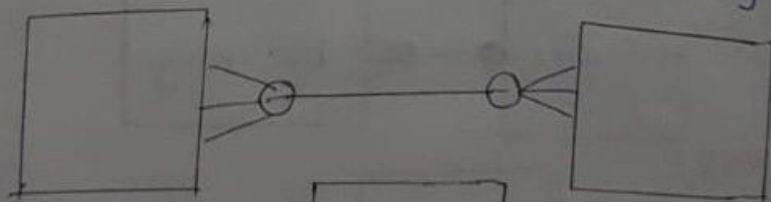


(OR)

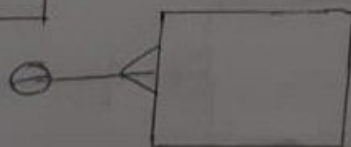


iv) optional many :- In an optional many relationship any instance of more than one entity might participate in a relationship with another entity.

e.g



(OR)



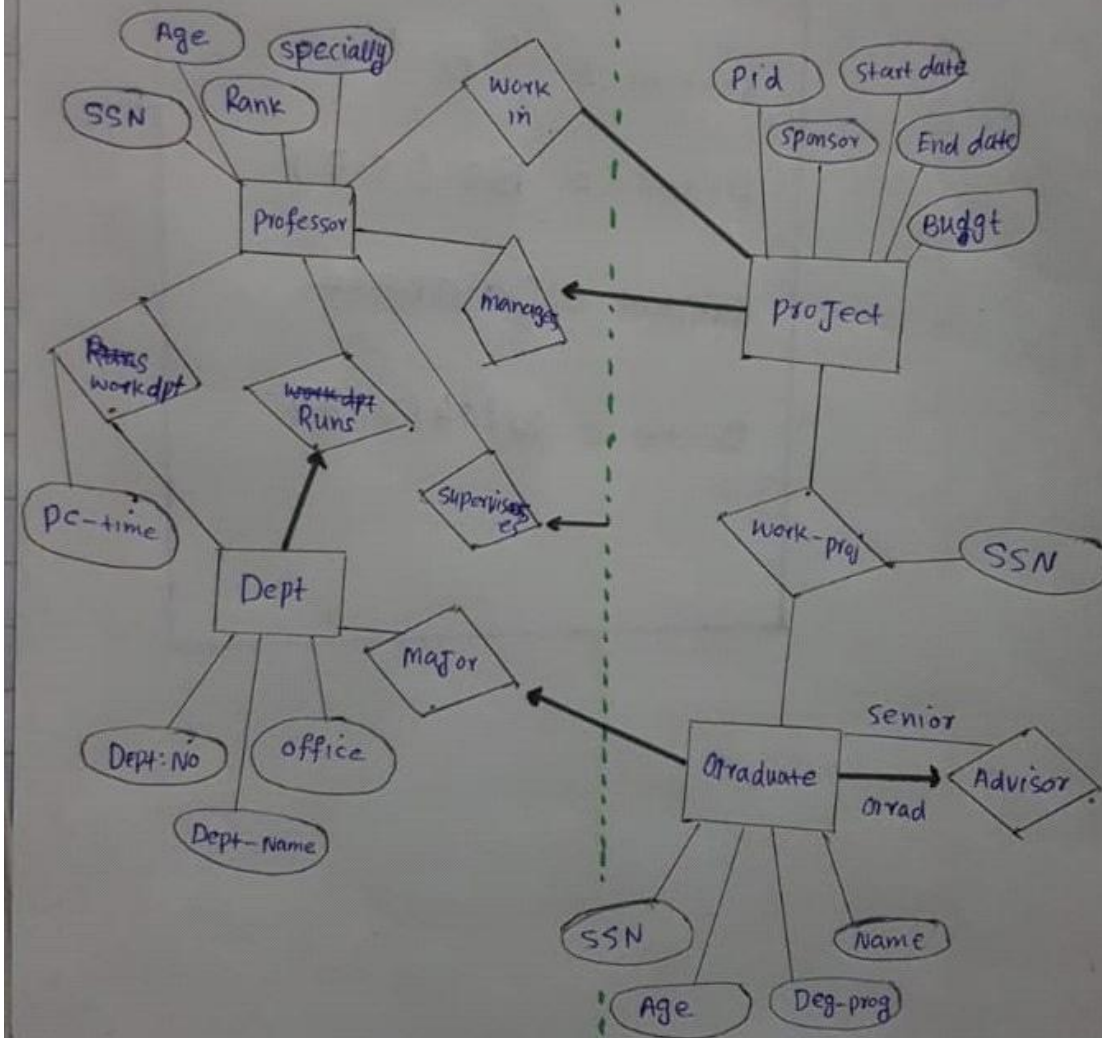
6: digital age has pushed data to the forefront of business functions cementing data as one of the most valuable assets a business can have businesses have adopted database software as a means to manage their data including functionality to add edit and remove data as needed. databases particularly excel in data querying based on the database type users can search for data using a massive and customizable range of parameters to get back exactly the information they need.

Q2:

ANS:

Question No 02 :- Draw an ERD from The following Business Rules: use proper notation for the type of attributes

ANSWER 02 :-



Q3 :

ANS: MAPPING PROCESS: creat table for weak entity set.

Add all its attributes to table as field.

Add the primary key of identifying entity set.

declare all foreign key constraints.

