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CLASS BS(SE)

Semester FOUR (4)

Section B

ID 14972.

Course DATA BASE SYSTEM

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: Question 1: Part 1:

which attribute in the following table is a candidate key? Assume that no more data will ever be added to this table.

ANSWER:-

Name	Semester	Department	P/T-Numbers.
Samia	1	CS	03334324254
Romaisa	1	CS	03335399123
Alina	1	CS	03150034224
Ayeza	3	CS	03455519822

CONDITION KEY:-

→ Candidate key is a set of attributes that uniquely identify tuples in a table.

→ Candidate key is super key with no repeated attributes.

⇒ The primary key is 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 values.

⇒ Candidate key may have multiple attributes.

⇒ Must may not contain null values.

⇒ It should contain maximum fields to ensure uniqueness.

⇒ Uniquely identifying each record in a table.

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Example:-

In the given table Student ID, which are Candidate keys which helps us to uniquely identifying the student record in the table.

CANDIDATE KEY:

Name	Semester	Department	P. Number.
Sania	1	CS	03334324234
Romaisa	1	CS	03335399123
Alina	1	CS	03150034224
Ayaza	3	CS	03455559822

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Part
: Question 2: What is data Redundancy and Data integrity?

: ANSWER:

:- Data Redundancy:-

2) Data Redundancy is a condition that can cause the same piece of data to be stored in multiple places of a database or a storage storage.

⇒ Repetition or superfluity of data.

⇒ Reduces data consistency.

⇒ Negative Impact.

:- Data Integrity:-

Data integrity is the process of ensuring that the data is accurate, unchange and consistent over its whole life cycle.

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⇒ Maintenance and assurance of the accuracy and consistency of data ~~at~~ over the entire life cycle.

⇒ Helps to improve data consistency.

⇒ Positive impact.

: Question 1: Part 3: How a multivalued composite attribute is represented in Conceptual Model. Also shown in example?

: ANSWER :-

: Multivalued Attribute:

An Attribute that can hold multiple values is known as multivalued attribute.

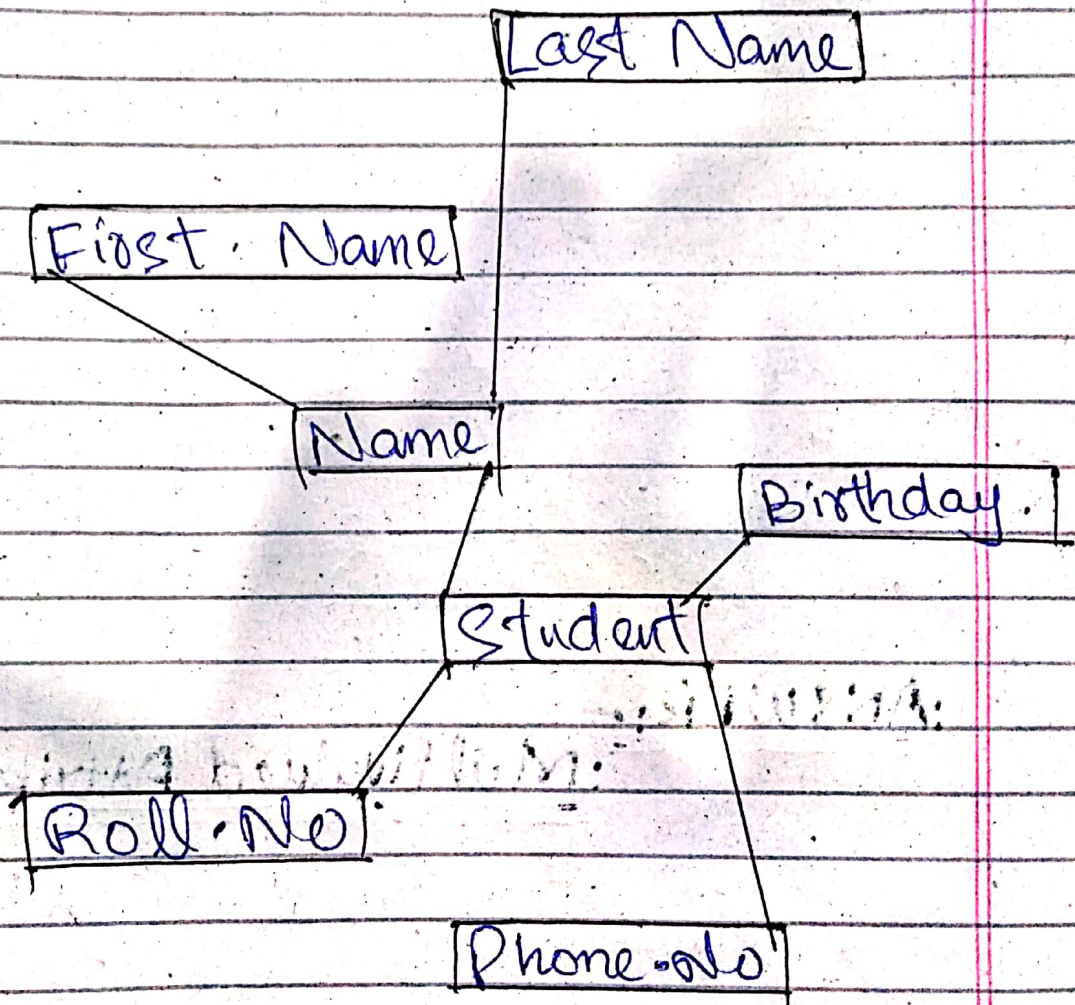
⇒ It is represented with double ovals in an ER-Diagram.

A person can have more

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more than one phone numbers, so the phone number attribute is Multivalued.

Example:-



⇒ Composite attribute is represented in conceptual model.

Conceptual model:

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Question 1: Part 4: How is there "reduced maintenance" in data-base approach?

ANSWER:-

⇒ Doing Rapid development of a database application in a busy corporate setting.

⇒ Extensive Constraints, automated tests, error logs, and defensive coding.

⇒ The maintenance Task. Fixing bugs, and deploying the fixes.

⇒ cleaning up the data.

⇒ Dealing with concurrency issues.

Question 1: Part 5: ~~Why is there an expert~~ How are the following represented using ER Diagram.

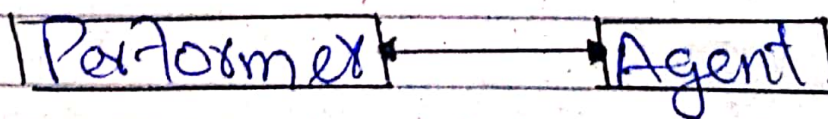
Answer:

Mandatory one, Mandatory many, optional one, optional many?

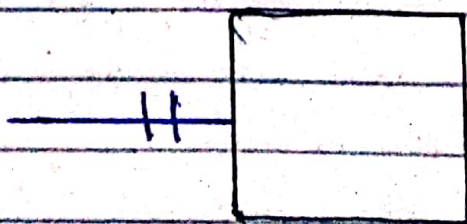
(1): Mandatory one:

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

e.g:



Relationship Cardinality: (OR)



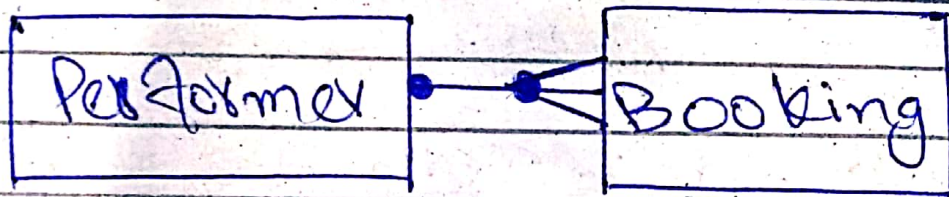
mandatory one.

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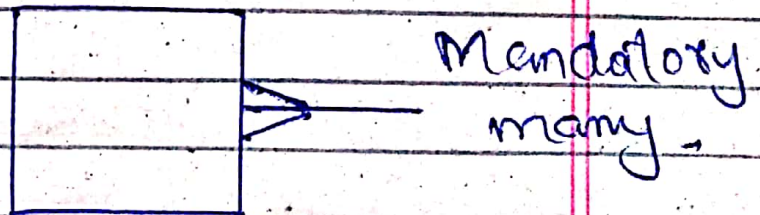
(2) Mandatory Many:

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

ex:eg:



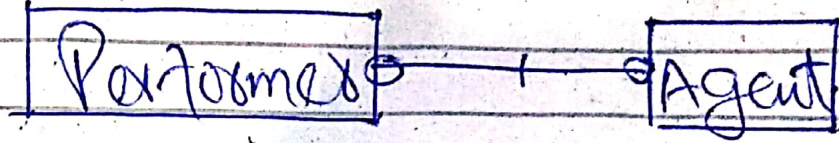
(OR)



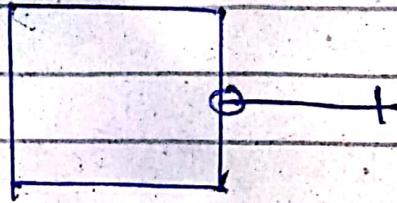
(3) Optional One:

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

e.g.:

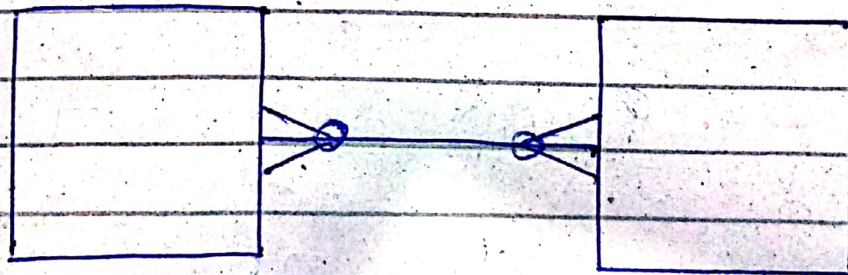


(OR)

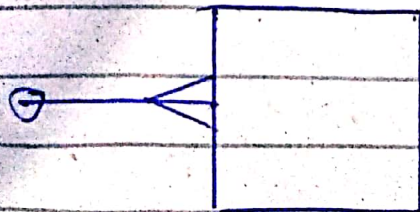


(4) : Optional Many

In an Optional many relationship any instance of more than one entity might participate in a relationship with another entity.



(OR)



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Question 1: Part b:

Why is there an explicit need of backup in data base approach?

: ANSWER:

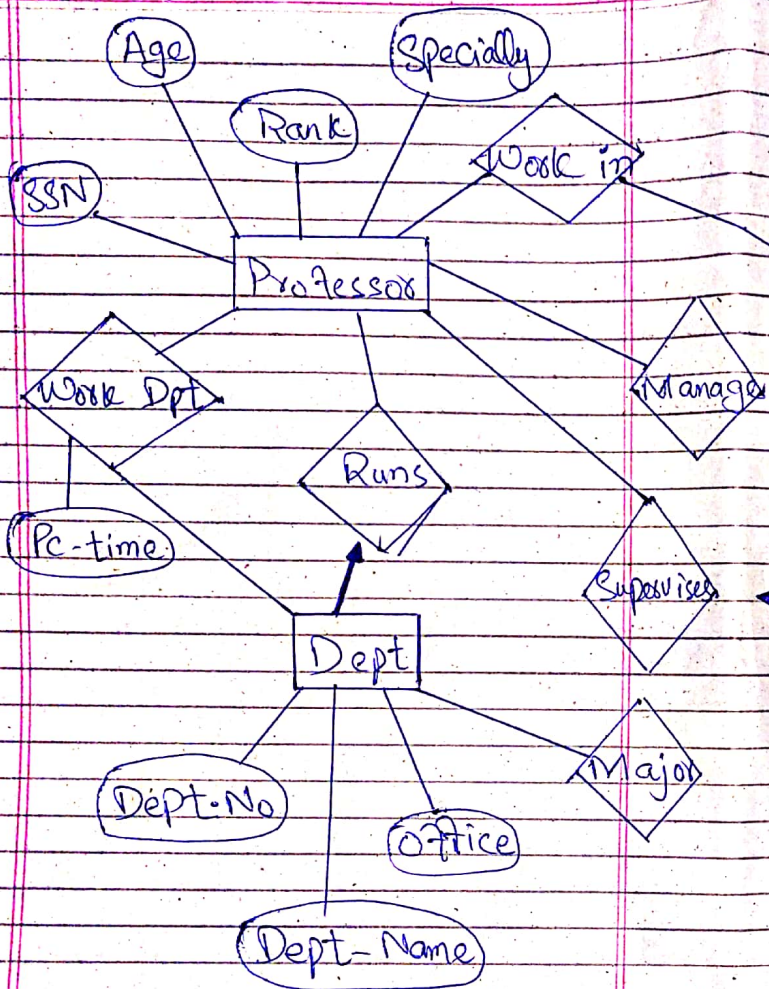
-: DATA-BASE BACKUP APPROACH:-

Backup one of several data-base types of chosen destination.

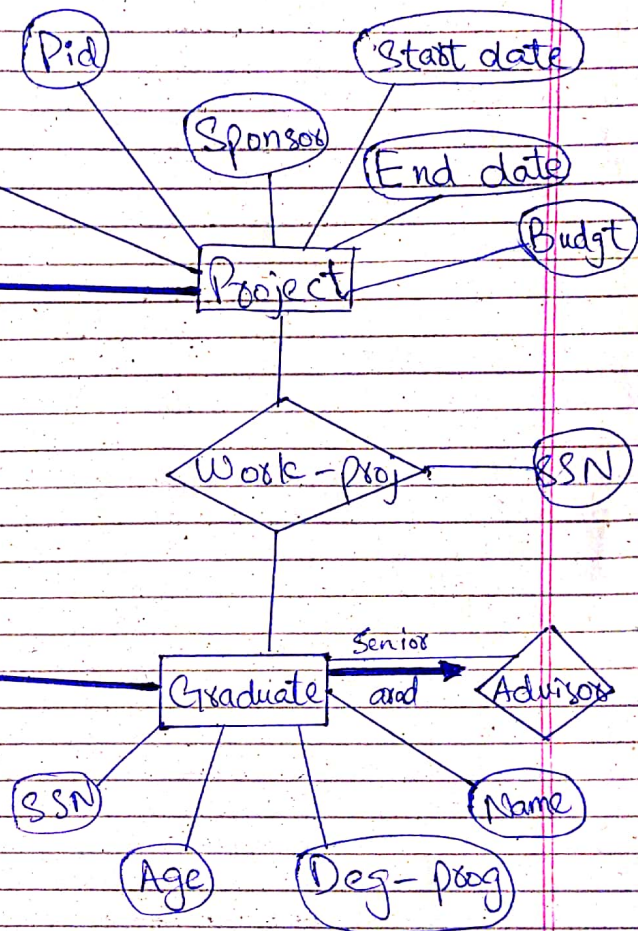
Setup automated or manual backup at the needed extensiveness.

Integration with other backups and IT management in - Infrastructure and solutions.

Question: 2:-



Question: 2:-



Question 3:

Convert the following Conceptual Model to Relational Model.

ANSWER:

Mapping Process:

- Create 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.

Student				Course	
St-ID	St-Name	St-address	take	Course-Name	Course-Number
1	AQIB	Masdan	*	BS (SE)	SE4
2	BIAL	Pasabkhar	*	BS (SE)	SE4

=
files
=

=
has
*

Seat	
Seat-Number	Seat-Position
Ce45	7
C730	2

Class		
Course-Name	Section-Id	Start-Date
BS (SE)	A	05/06/19
BS (SE)	B	11/06/19