L3 : ER Model Practice Questions

1-Tut : MCQ - 1

Send Feedback

ER diagram represents which of the following data models:

Options

This problem has only one correct answer

Conceptual
Physical
Logical
Minimised

Correct Answer : A

Solution Description

ER diagram creation is part of the conceptual design process wherein we identify entities, relationships, attributes, types of entities, etc. They come under the category of conceptual data models

2-Tut : MCQ - 2

Send Feedback

ER diagrams are usually created after we design the databases

Options

This problem has only one correct answer

True
False

Correct Answer : B

Solution Description

ER diagram creation is part of the conceptual design process wherein we identify entities, relationships, attributes,types of entities, types of attributes etc; which is then followed by creation of the schemas and databases.

3-Tut : MCQ - 3

Send Feedback

Why do we use ER diagrams?

Options

This problem has only one correct answer

It acts as a blueprint for designing the database
It helps in the identification of entities, attributes, relationships between various entities
It can be translated into relational models
All of the above.

Correct Answer : D

Solution Description

The main purpose of using ER diagrams are

1. Modelling how the data is stored in the database is important. ER diagrams help to design the database hence it also acts as a Blueprint of the database.
2. It tells the user about the different entities, attributes, etc., that are used in the database. Apart from that, It also helps users define the relationship between different entities of the databases. Users can identify all the entities, attributes, and relationships by seeing the ER diagram.

3. We can create a relational model of a database with the help of ER diagram. ER diagram represents data graphically that helps create a relational model.

4-Tut : **MCQ - 4**

Send Feedback

Entities, attributes and relationships are the three important components of ER Diagram.

Options

This problem has only one correct answer

True
False

Correct Answer : A

Solution Description

The three main components of ER diagram are:
1. Entity: An entity is an object that stores data in the database. An entity consisting of one or more attributes and a unique key.

2. Attributes: It is a single-valued property of either an entity-type or a relationship type.

3. Relationships: A relationship is an association between 2 or more entities.

5-Tut : **MCQ - 5 (Primary Key)**

Send Feedback

For an entity Book, which attribute can be made the primary key

Options

This problem has only one correct answer

Book_price
Book_name
Book_code
Publish_date

Correct Answer : C

Solution Description

Book_price, Book_name and Publish_date can be the same for different books. Book_code is the only attribute which would be unique for each book and hence can be made the Primary key.

6-Tut : MCQ - 6

Send Feedback

Which of the following is true for entity

Options

This problem has only one correct answer

It can be related to another entity
It has a key attribute
It can have one or many attributes
All of the above

Correct Answer :D

Solution Description

An entity is an object that stores data in the database. An entity consisting of one or more attributes and a unique key.

An entity can be represented by the following points below.
1. Entities take part in relationships. We can see different entities having a relationship with each other.

2. An entity consists of a Key attribute which is known as a Unique key.

3. An Entity can have more than one attribute.

7-Tut : MCQ - 7

Send Feedback

Any entity which does not has its own primary key is known as

Options

This problem has only one correct answer

Unknown entity
Strong entity
Hard entity
Weak entity

Correct Answer :D

Solution Description

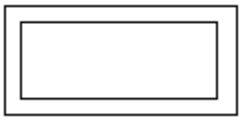
Weak entity does not have its own primary key and hence depends on some other entity called Strong entity.

8-Tut : MCQ - 8 (Weak Entity)

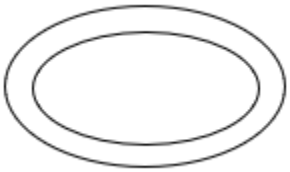
Send Feedback

How is a weak entity represented: -

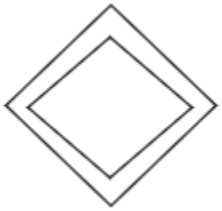
a.



b.



c.



d.

Options

This problem has only one correct answer

a
b
c
d

Correct Answer : A

Solution Description

A weak entity set is usually dependent on a strong entity set to ensure its existence and it does not have any primary key rather contains a discriminator or a partial key to differentiate between the records present in the weak entity set table. It is represented with a double rectangle. It needs to have participation

9-Tut : **MCQ - 9 (Entity)**

Send Feedback

An entity can be

Options

This problem has only one correct answer

related to only one other entity
related to itself
related to only two other entities
related to many other entities

Correct Answer :D

Solution Description

An entity can be related to many different entities , including itself.
For an University ER diagram, the entity Course can be related to entities such as:

Students. Professor, Fees, Workshops etc.

10-Tut : MCQ - 10 (Attributes)

Send Feedback

For library management system, the Book*code, Book*name, Author*name, Book*price are all an examples of

Options

This problem has only one correct answer

Entities
Attributes
Relationships
Descriptions

Correct Answer : B

Solution Description

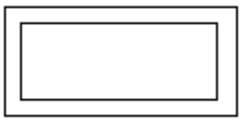
An attribute is a single-valued property of either an entity-type or a relationship type. In the case of the library management system, the bookcode, Bookname, Authorname and Bookprice all are single-valued properties that are a part of an entity book.

11-Tut : MCQ - 11

Send Feedback

In a library management system a student can borrow maximum of 3 books in a semester, so in ER diagram the “Book_name” attribute should be represented as :

a.



b.

c.

Options

This problem has only one correct answer

a
b
c
None of the above

Correct Answer : C

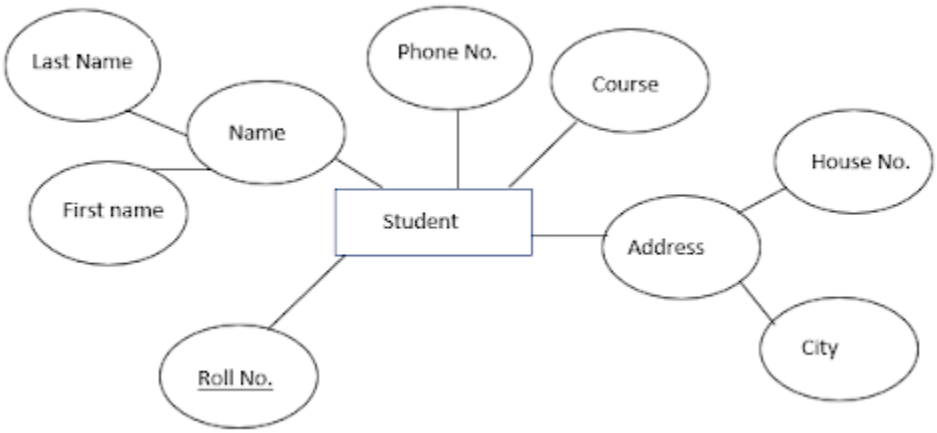
Solution Description

Here, Book_name is a multivalued attribute as more than 1 book can be borrowed. Multivalued attributes are represented with double ovals

12-Tut : **MCQ - 12**

Send Feedback

For the following Student entity, identify the composite attributes:



Options

This problem has only one correct answer

Name
Roll no.
Name, Address
House No., City

Correct Answer :C

Solution Description

Name and Address are the attributes which are combinations of more than one attribute and hence they are known as composite attributes. For example, Name is formed from LastName and FirstName of a student.

13-Tut : MCQ - 13

Send Feedback

A student can book a maximum of three books but each book can be booked by only one student, so the relationship between student and book is

Options

This problem has only one correct answer

Many-to-many
One-to-many
Many-to-none
One-to-one

Correct Answer :B

Solution Description

A student can borrow a maximum of 3 books. This means that a student instance can be related to any books i. So, One student can have many books. Also, we know a book can be borrowed only by a single student. So the relationship between them must be described as one to many.

It will not be many-to-many as one book cannot be borrowed by multiple students

14-Tut : MCQ - 14 (Relationship)

Send Feedback

Which of the following is used to represent the relationship in an E-R diagram

Options

This problem has only one correct answer

circles
rectangles
diamond
ellipse

Correct Answer :C

Solution Description

A diamond symbol is used to represent a relationship between different entities in an ER diagram.

15-Tut : MCQ - 15 (Relationship)

Send Feedback

Each student gets only one login ID for the online library system. So, the relationship between student and login ID is

Options

This problem has only one correct answer

M:N
1:N
N:1
1:1

Correct Answer : D

Solution Description

According to the statement, A student is getting only one login ID. This means that a single student will be related to a single Login id. are. So the answer must be 1:1.

16-Tut : MCQ - 16 (ER Diagram)

Send Feedback

Which of the following is considered best-practices for creating ER Diagram

Options

This problem has only one correct answer

Naming every entity , attribute and relationship
Connecting relationships to each other
Same Entities are drawn multiple times
All of the above

Correct Answer : A

Solution Description

Relationships should not be connected to each other, they should connect entities. Similarly, every entity should bed drawn only once in the diagram.

17-Tut : MCQ - 17 (ER Diagram)

Send Feedback

Which of the following is not true for ER Diagram

Options

This problem has only one correct answer

ER Diagram is a visual representation for ER model
ER diagrams has three components: entities, relationships and attributes
ER diagram is not a high level data model diagram
All of the above

Correct Answer : C

Solution Description

ER Diagram is a high level data model diagram, which helps in visualising and designing the database components.

18-Tut : MCQ - 18

Send Feedback

Which of the following is a type of abstraction in which entities with relationships come together to form higher level entity

Options

This problem has only one correct answer

Generalization
Specialization
Aggregation
None of the above

Correct Answer : C

Solution Description

Aggregation is used when we need to express a relationship among relationships. It is like abstraction through which relationships are treated as higher-level entities. In this multiple entities are considered as a single entity and again this single entity has a relationship with another entity.

19-Tut : **MCQ - 19**

Send Feedback

If textbook, magazine, journal, encyclopedia entities are derived from the Book entity , then it is an example of

Options

This problem has only one correct answer

Specialization
Generalization
Aggregation
None of the above

Correct Answer : A

Solution Description

In Specialization, based on distinguishing properties an entity is broken down into multiple sub-entities.

20-Tut : **MCQ - 20 (Generalisation)**

Send Feedback

Which is true for Generalisation:

Options

This problem has only one correct answer

It is a top down approach
It is a bottom up approach
both a. and b.

Correct Answer : B

Solution Description

In generalisation, the sub entities are combined together resulting in the formation of a parent entity set on the basis of some common features. The new entity thus formed contains all the features of the sub entities. Generalisation is a process which follows a Bottom-to-Up approach.

21-Tut : MCQ - 21

Send Feedback

The process of designating sub groupings within the entity set is called as _____.

Options

This problem has only one correct answer

Specialization
Division
Aggregation
Finalization

Correct Answer : A

Solution Description

With Respect to ER Model, specialisation is the procedure to split up the entities into further sub entities on the basis of their functionalities, specialities and features. These sub-designation of entities are distinctive from other entities in the set.

22-Tut : MCQ - 22

Send Feedback

An abstraction concept for building a composite object from their individual component object is?

Options

This problem has only one correct answer

generalization
aggregation
association
specialization

Correct Answer : B

Solution Description

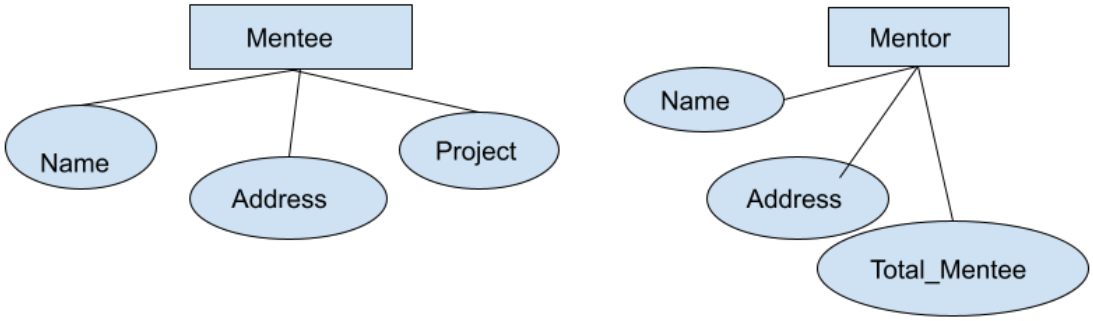
In Aggregation multiple entities are considered as a single entity and again this single entity can have relationship with another entity. It treats relationships as an abstract entity.

Tut : Open Text 1

Send Feedback

Given above is an ER-Diagram, apply Generalization on Mentee and Member to form a new ER-diagram

(Hint: both are Person)

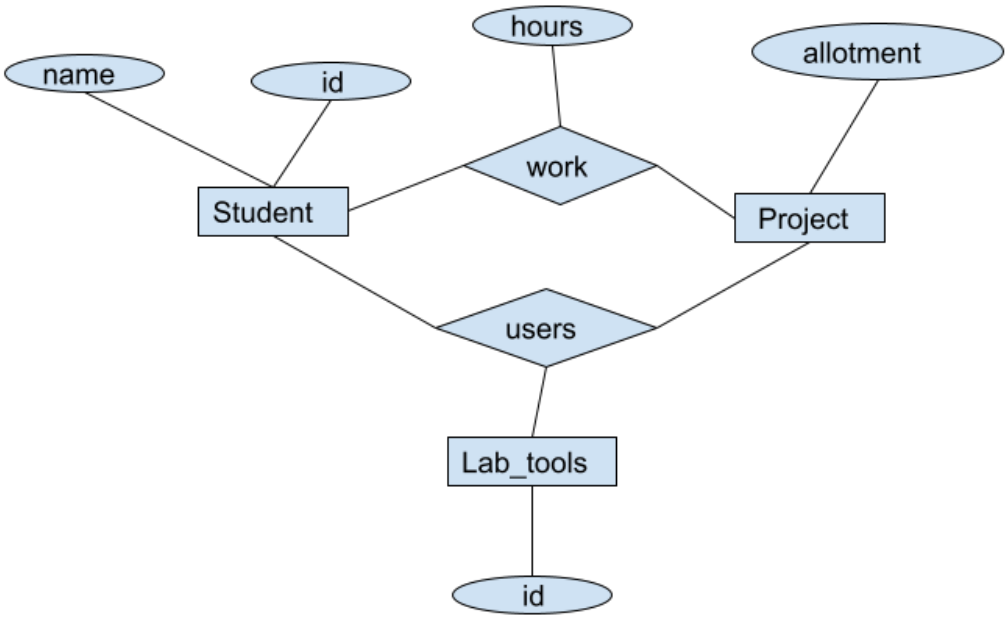


Tut : Open Text 2

Send Feedback

Consider a Database with information about student who work on a particular project and use a number of lab tools doing that work. Relationships ‘work’ and ‘uses’ , could be combined into a single set. However, they shouldn't be, as this would obscure the logical structure of this scheme.

What could be an apt way to represent relationships among relationships?



1- Practice Assignment

Send Feedback

Create an ER Diagram for

Online delivery system:

Every commodity that needs to be delivered to a customer should be fetched from the warehouse where it is stored safely. Each warehouse has its unique ID , address, contact number. Every commodity to be delivered has a unique ID, height, weight, delivery date, destination, customer name. After getting the item from the warehouse it should be shipped by a vehicle which has vehicle number, type, route, charges.

Identify the entities, attributes, type of attributes, relationships, cardinalities and primary key.

2- Practice Assignment

Send Feedback

Create an ER-Diagram for

Online doctor consultation system:

In this system the patients can book appointments with the doctor who can then share a prescription slip which will have the details of the medicine which needs to be purchased by the patient.

The patient must have basic details like a unique Id (Adhaar no.), first name, last name, DOB, contact number, gender.

The doctor will also have the a unique ID, first name, last name, years of experience, type (cardiologist, pediatrician etc) and contact number.

The prescription ship will have Slip number, date of generation, ID of doctor who generated it, ID of patient to which it is sent.

Medicine will have type, price, quantity, date of expiration.

Identify the entities, attributes, type of attributes, relationships, cardinalities and primary key.