

L1 : Introduction to DBMS Practice Questions

1-Tut : MCQ - 1

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Data can be used to make decisions only if:

Options

This problem has only one correct answer

- It is in huge volume
- It can be processed into information
- It is electronically generated
- It contains numbers

Correct Answer : B

Solution Description

Information is required to make decisions and information is nothing but processed data.

2-Tut : MCQ - 2

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Which of the following is data:

Options

This problem has only one correct answer

- Web page
- Image shot from phone
- Fingerprint
- All of the above

Correct Answer : D

Solution Description

Web pages contain different text, images, etc which act as a huge amount of data for data processing.

Image shot from the phone is data which can be used to gather some information.

The fingerprint is data that can be used to identify a particular person as it's unique for everyone.

3-Tut : MCQ - 3

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Anything which stores only unstructured data can be called a database.

Options

This problem has only one correct answer

- True
- False

Correct Answer : B

Solution Description

It is not true as a database can contain both structured and unstructured data. Relational Databases contain only structured data whereas NoSql (Eg: MongoDB) can contain unstructured data.

4-Tut : MCQ - 4

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Which of the following is not true:

Options

This problem has only one correct answer

Database and Database management system (DBMS) are the same
Database stores data.

Database management system is a software.
All of the above.

Correct Answer : A

Solution Description

Database stores data whereas DBMS is a software which helps us in creating, retrieving, manipulating and managing the database.

5-Tut : MCQ - 5

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Which of the following is the purpose of DBMS:

Options

This problem has only one correct answer

Creation of database
Manipulation of data
Retrieving data from database
All of the above

Correct Answer : D

Solution Description

Database Management System (DBMS) is a software system used to store, retrieve, run queries on data, or manipulate it. It also acts as an interface between a client and a database, allowing them to read, create, update, or delete data in the database.

6-Tut : MCQ - 6

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File based systems faces data integrity issues because:

Options

This problem has only one correct answer

Files contains textual information
Large data is stored in files
Duplicate files may have different values
Files are changed frequently

Correct Answer : C

Solution Description

File-based systems face data integrity issues because each file is unique in itself and the content is hence local to it. Data present in different files are not linked with each other. So suppose there is file A and we create its copy “Copy of A” for future purposes. If someone changes the content of file A, then the content present in “Copy of A will not change, and hence the data will be inconsistent in both the files now.

7-Tut : MCQ - 7

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What does same data being saved in multiple locations called

Options

This problem has only one correct answer

Inconsistency
Redundancy
Integrity
Security

Correct Answer : B

Solution Description

Repeating the same data at different locations is called the redundancy of data. In file-based systems, it is very difficult to keep track of redundancy.

8-Tut : MCQ - 8

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In File based systems it is easy to maintain concurrency control when multiple users are updating the same file.

Options

This problem has only one correct answer

True
False

Correct Answer : B

Solution Description

A concurrency control system should provide safe access to shared information, removing the risk of collisions but in a file system, it can cause data integrity problems. Hence concurrency is not easy to achieve in a file-based system.

9-Tut : MCQ - 9

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File System in which each teacher of a college is maintaining their separate files concerning the same subjects taught in the course would lead to :

Options

This problem has only one correct answer

- High data integrity
- High data redundancy
- High data security
- High efficiency to access data

Correct Answer : B

Solution Description

Since The given scenario will lead to presence of the same data at multiple locations , hence it will lead to high redundancy.

10-Tut : MCQ - 10

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If your laptop has the application like MS Access which is fetching data from some other system then it is an example of which type of architecture :

Options

This problem has only one correct answer

- 1 tier
- 2 tier
- 3 tier
- None of the above.

Correct Answer : B

Solution Description

Since in a two-tier architecture, an interface runs on a client, and a data layer gets stored on a server. In the case of MS access also, an interface is running on your laptop which is actually fetching data from some database on another system. Hence it is an example of 2-tier architecture.

11-Tut : MCQ - 11

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In a software architecture which of the following is responsible for computing the result and returning it:

Options

This problem has only one correct answer

Client

Server

Correct Answer : B

Solution Description

In software architecture Server is responsible for all the heavy computations and returning their result and client is only responsible for displaying them through an interface.

12-Tut : MCQ - 12 (Data Sharing)

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What do you mean by data sharing in DBMS:

Options

This problem has only one correct answer

Same information is visible to everyone

Different information is visible to everyone

Different versions of information is visible to everyone

Anyone can access data

Correct Answer : A

Solution Description

The act of sharing the same data resource with multiple applications or users is known as data sharing. In the case of DBMS when the same information is visible to everyone , it is called data sharing.

13-Tut : MCQ - 13 (Drawback of DBMS)

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What is/are the drawback of using DBMS:

Options

This problem has only one correct answer

Requires training

Complex to use

It is costly

All of the above

Correct Answer : D

Solution Description

Using DBMS leads to the following disadvantages:

->It requires training because of the complexity associated with it.

->It is complex to use for non-technical users as it isn't easy to maintain and manage the database systems.

->It has a very high cost associated with it as it requires a high-speed processor and huge memory size to use the database on the DBMS.

L2 : Data Models Practice Questions

1-Tut : MCQ - 1 (Conceptual Model)

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Which of the following is true for conceptual model:

Options

This problem has only one correct answer

It is independent of hardware

It is independent of software

It is dependent on both hardware and software

It is independent of both hardware and software

Correct Answer : D

Solution Description

Conceptual model is the high level data model which does not depend on the hardware and the software.

2-Tut : MCQ -2

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When asked to design a high level conceptual data model, the very first step is _____.

Options

This problem has only one correct answer

Functional requirement analysis

Logical design analysis

Requirement analysis

Conceptual design analysis

Correct Answer : C

Solution Description

Before we start with the designing of a conceptual data model , we should be clear of the requirements of the system. Hence, requirement analysis is the first step that needs to be taken.

Let's take an example to understand this. You have been asked to create a data model for a BANK. So the very first step will be collecting the necessities and functionalities that the BANK database must have . Some examples can be it should be able to store: current balance, type of account, customer name , account numbers etc.

3-Tut : MCQ - 3

[Send Feedback](#)

Which one of the following is an example of the object-based logical model?

Options

This problem has only one correct answer

entity relationship model

document model

relational model

network model

Correct Answer : A

Solution Description

The Entity Relationship model is the example of an object-based logical model as it uses the notions of entities or objects and relationships among them instead of using implementation-based concepts, such as records, used in the record-based models. This delivers flexible structuring abilities and permits data limitations to be specified explicitly.

4-Tut : MCQ - 4

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According to a certain given database schema, manager's salary is hidden from employees, which level of abstraction is it.

Options

This problem has only one correct answer

Physical level

Conceptual level

External level

Internal level

Correct Answer : C

Solution Description

External level abstraction provides a powerful and flexible abstraction by hiding certain parts of a database from certain users according to the requirements. Also, in this abstraction, the user is not aware of any missing attributes from the view. It also allows users to access data in a customized way according to their needs, and due to this functionality, different users see the same data in different ways simultaneously.

5-Tut : MCQ - 5

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Which of the following model tells how data will be stored:

Options

This problem has only one correct answer

Physical data model

Creational data model

Conceptual data model

Representational data model

Correct Answer : A

Solution Description

Physical Data model represents the physical structure of the database which includes planning of how the data will be organised, stored on the disk and various access methods available for it.

6-Tut : MCQ - 6 (Data Modelling)

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Data modelling helps in achieving abstraction in DBMS.

Options

This problem has only one correct answer

True

False

Correct Answer : A

Solution Description

Abstraction means showing only what is required and hiding the extra information. This is achieved through the three kind of data modelling: Conceptual, Representational and Physical data models.

7-Tut : MCQ - 7

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Which of the following data models describes the database at the highest level ?

Options

This problem has only one correct answer

Conceptual data model

physical data model

network data model

hierarchical data model

Correct Answer : A

Solution Description

A conceptual data model describes and conveys high-level relationships between concepts/entities. In simpler words, it helps an organization see their data – and the relationships between distinct data.

8-Tut : MCQ - 8

[Send Feedback](#)

Which one of the following is a popular representational model?

Options

This problem has only one correct answer

ER model

Relational model

Hierarchical model

Network model

Correct Answer : B

Solution Description

The relational model in DBMS is used to organize and manage the data stored in a database. It stores data in the form of tables. Each row represents an entity, and each column represents the entity's properties.

9-Tut : MCQ - 9 (Database Schema)

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Database schema is part of which design process

Options

This problem has only one correct answer

Conceptual design

Logical design

Physical Design

None of the above

Correct Answer : B

Solution Description

Going by the definition of database schema , it is the skeleton structure that demonstrates the logical view of the complete database. It is responsible for describing the organization of data and how the relations will be associated among them. It also formulates all the conditions that are to be applied on the data.

10-Tut : MCQ - 10 (3-Tier Architecture)

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In 3 tier architecture, which of the following deals with the physical storage of data

Options

This problem has only one correct answer

External schema

Internal schema

Conceptual schema

All of the above

Correct Answer : B

Solution Description

The internal schema describes the physical storage structure of the database. It is a very low-level representation of the complete database.

11-Tut : MCQ - 11

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Which of the following shows only the relevant data to users and hides the rest

Options

This problem has only one correct answer

Physical Schema

External Schema

Conceptual Schema

None of the above

Correct Answer : B

Solution Description

External schema shows only the data a user requires, in the form of views. Other unnecessary data is kept hidden from the users.

12-Tut : MCQ - 12

[Send Feedback](#)

Which of the following describes the design of a database and the relationship between data ?

Options

This problem has only one correct answer

Conceptual Schema

Physical Schema

External Schema

None of the above

Correct Answer : A

Solution Description

The conceptual schema defines the structure of the database for a group of users. It abstracts information about the physical storage structures and defines data types, entities, relationships, etc.

13-Tut : MCQ - 13 (Data Modification)

[Send Feedback](#)

Which of the following changes whenever we modify any data

Options

This problem has only one correct answer

Database schema

Database instance

None of the above

Correct Answer : B

Solution Description

Database instance refers to the data stored in the database at a particular moment. On the other hand database schema is the structure of the database and does not change if we are modifying only the data. So, if we're adding, removing, changing the data it will only change the database instance.

14-Tut : MCQ - 14

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Which of the following is/are true with reference to 'view' in DBMS?

1. A 'view' is a special stored procedure executed when a certain event occurs.
2. A 'view' is a virtual table, which occurs after executing a pre-compiled query.

Options

This problem has only one correct answer

Only 1 is true.

Only 2 is true

None

Both are true.

Correct Answer : B

Solution Description

A view is a subset of a database generated from a query and stored as a permanent object. Definition of view is permanent, but the data included therein is dynamic depending on the point at which the view is accessed. Views represent a subset of the data contained in a table.

15-Tut : MCQ - 15

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Match the following:

1. Physical Level Abstraction	p) what data is stored in the Database
2. Instance	q) design of the database
3. Logical Level Abstraction	r) information stored in database at a particular
4. Schema	s) how data is stored in the database

Options

This problem has only one correct answer

1-s,2-r,3-p,4-q

1-p,2-q,3-r,4-s

1-s,2-p,3-q,4-r

1-s,2-q,3-p,4-r

Correct Answer : A

Solution Description

- Physical level abstraction is one of the lowest levels of abstraction. It provides us with the details of complex data structures. It tells us how the data is stored in the database.
- The instance, also known as the current state or database state, provides us with information about what data is stored in a database at a particular moment.
- Logical level abstraction is the second last level of abstraction architecture. It provides us with information about what data is stored in the database.
- A database schema provides a logical view of the database. It is like a skeleton structure for the database. It is also known as the design of the database.

L3 : ER Model Practice Questions

1-Tut : MCQ - 1

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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

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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)

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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

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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

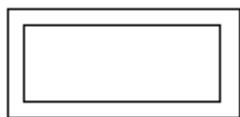
Weak entity does not have its own primary key and hence depends on some other entity called Strong entity.

8-Tut : MCQ - 8 (Weak Entity)

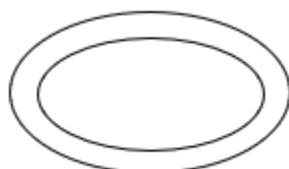
[Send Feedback](#)

How is a weak entity represented: -

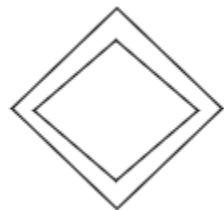
a.



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)

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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)

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For library management system, the *Bookcode*, *Bookname*, *Authorname*, *Bookprice* are all an examples of

Options

This problem has only one correct answer

- Entities
- Attributes
- Relationships
- Descriptions

Correct Answer : B

Solution Description

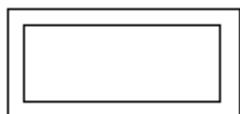
An attribute is a single-valued property of either an entity-type or a relationship type. In the case of the library management system, the bookcode, Bookname, Authorname and Bookprice all are single-valued properties that are a part of an entity book.

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 :

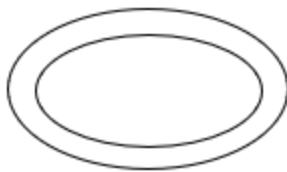
a.



b.



c.



Options

This problem has only one correct answer

- a
- b
- c

None of the above

Correct Answer : C

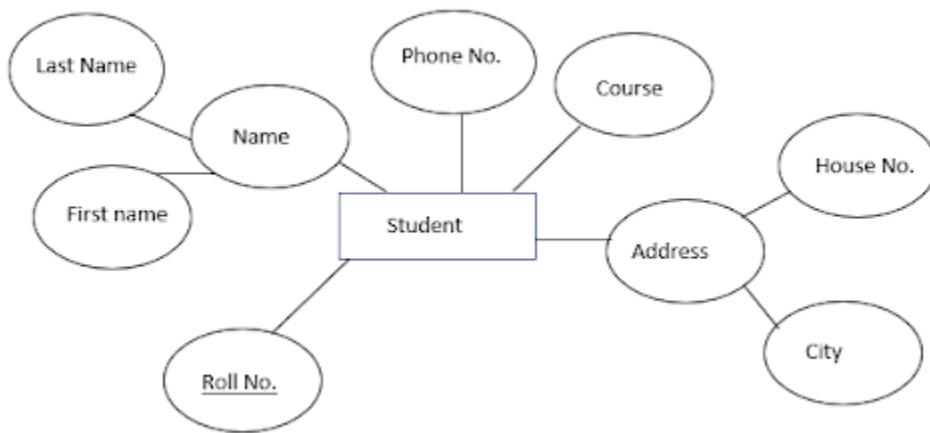
Solution Description

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

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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)

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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)

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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 be drawn only once in the diagram.

17-Tut : MCQ - 17 (ER Diagram)

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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

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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

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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

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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

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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

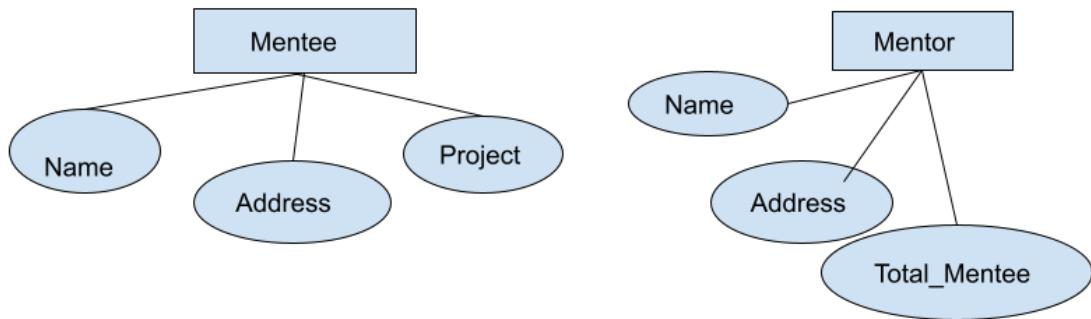
Solution Description

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

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Given above is an ER-Diagram, apply Generalization on Mentee and Member to form a new ER-diagram
(Hint: both are Person)



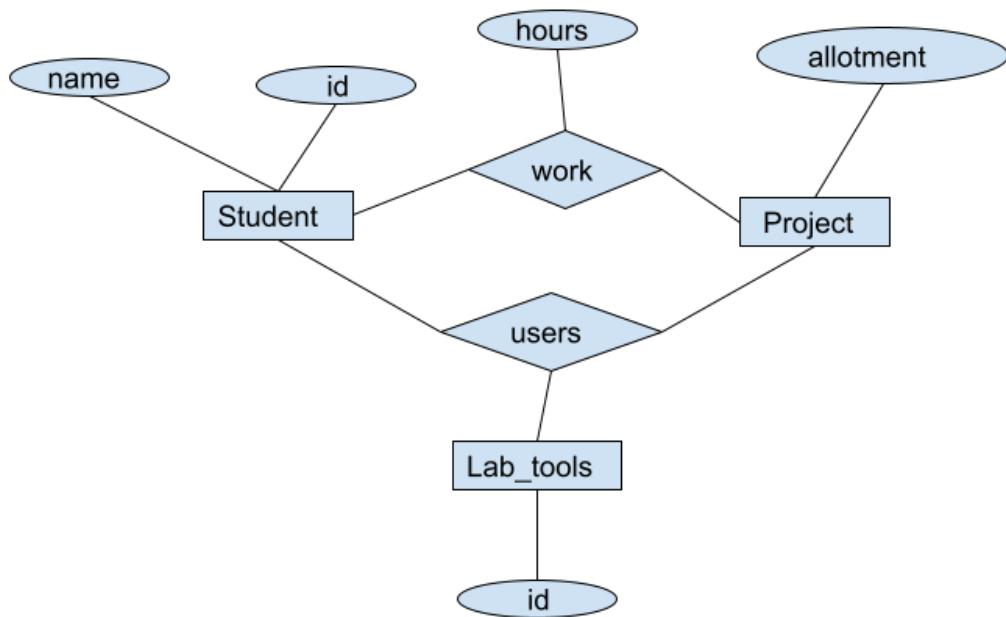
Tut : Open Text 2

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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

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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

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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.

L4 : Relational Model Practice Questions

1-Tut : MCQ - 1

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Match the ER diagram components to their representation in the relational model

a. Entity	1. Foreign key
b. Attribute	2. Relation
c. Relationship between entities	3. Columns

Options

This problem has only one correct answer

a1 b2 c3

a2 b3 c1

a2 b1 c3

a3 b1 c2

Correct Answer : B

Solution Description

An entity in ER diagram is represented by a relation or a table in relational model, similarly attributes of an entity are denoted by columns or fields of the table. Relationships between entities are shown by using foreign keys in relational models

2-Tut : MCQ -2 (Relational Model)

[Send Feedback](#)

In a relational model, which of the following indicates the cardinality:

Options

This problem has only one correct answer

Number of attributes

Number of keys

Number of tuples

Number of relations

Correct Answer : C

Solution Description

In relational model, cardinality refers to the number of tuples present in a relation or table

3-Tut : MCQ - 3

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

A relation and table are the same.

An attribute and a column in relation means the same.

None of the above

A and B both

Correct Answer : D

Solution Description

For design purpose, table and relation means the same. Although, technically a relation does not have duplicate value but a table can contain duplicate. Similarly, the attributes and the column are the same.

4-Tut : MCQ - 4

[Send Feedback](#)

For the given relation Book, what is the degree:

Book_name	Book_code	Book_Price	Author_name	Publish_date
Physics-1	011	180	Dr. Raj Nag	21-03-1996
Chemistry-1	021	200	Dr. Kiran Sethi	25-2-2001
Maths-1	031	175	Vipul Sen	1-6-2006

Options

This problem has only one correct answer

3

5

15

10

Correct Answer : B

Solution Description

In relational model, degree refers to the number of attributes present in the relation

5-Tut : MCQ - 5

[Send Feedback](#)

Which of the following is not a property of the table:

Options

This problem has only one correct answer

- Every column should have unique name
- An attribute can have multiple values for a row
- Column values should be of same type
- Sequence of rows is insignificant

Correct Answer : B

Solution Description

A relation should contain atomic values, so multiple values for an attribute should be avoided

6-Tut : MCQ - 6

[Send Feedback](#)

Match the components of relational model which are same:

a. Tuples	1. Relation
b. Column	2. Field
c. Table	3. Rows/Record

Options

This problem has only one correct answer

- a2 b1 c3
- a3 b2 c1
- a1 b3 c2
- a3 b1 c2

Correct Answer : B

Solution Description

A Tuples in the Relational model is represented by a row, also known as records. Similarly, columns are denoted by fields of the table also called attributes. The table is similar to relation in the relational model.

7-Tut : MCQ - 7

[Send Feedback](#)

There is a set of permitted values for each attribute of a relation. These are known as:

Options

This problem has only one correct answer

- Schema
- Instance
- Domain
- Relation

Correct Answer : C

Solution Description

Domain is a set of permitted values, The value of attributes should be in the domain.

8-Tut : MCQ - 8

[Send Feedback](#)

A null value of an attribute indicates which of the following:

Options

This problem has only one correct answer

- Zero
- Infinite
- Error
- Unknown

Correct Answer : D

Solution Description

NULL value implies that the value for that particular attribute is unknown, this is not same as 0 or error.

9-Tut : MCQ - 9

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

- A candidate key is a minimal super key.
- Candidate keys which do not become primary keys are called alternate keys.
- Any candidate key can become a Primary key.
- All of the above

Correct Answer : D

Solution Description

A candidate key is a minimal subset of super keys. It contains no redundant attribute. Hence, it is selected from the set of super keys given that those selected keys DO NOT have any redundant attributes. Candidate Key value should not be null. Any candidate key can be selected to be a primary key according to preference. The candidate keys that are not selected as the primary key are called the alternate keys.

10-Tut : MCQ - 10 (Primary Key)

[Send Feedback](#)

A primary key should be:

Options

This problem has only one correct answer

- Null
- Not null

[Unique](#)
[Unique and not Null](#)

Correct Answer : D

Solution Description

A primary key is a unique identifier that helps us to identify each and every tuple uniquely.
No two rows have the same value for the primary key Attribute and the primary key cannot be null.
The primary key in the table cannot be changed.

It is selected out of all the candidate keys by the database admin.

11-Tut : MCQ - 11

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

- [We can have multiple candidate keys](#)
- [We can have multiple primary keys](#)
- [The value of primary key can be same for 2 tuples](#)
- [Alternate key and primary key are the same.](#)

Correct Answer : A

Solution Description

A relation can have multiple candidate keys, out of which ,one is selected as a primary key and the remaining ones are called alternate keys

12-Tut : MCQ - 12

[Send Feedback](#)

A primary key with the help of foreign key creates a parent child relationship between the tables that connect them.

Options

This problem has only one correct answer

- [True](#)
- [False](#)

Correct Answer : A

Solution Description

A primary key is of a relation is linked with the foreign key, so that the referential constraint is set up between the two relations; hence it creates a parent-child relationship between the tables that connects them.

13-Tut : MCQ - 13 (CRUD Operations)

[Send Feedback](#)

What does R refers to in CRUD operations:

Options

This problem has only one correct answer

Replicate

Read

Redundant

Replace

Correct Answer : B

Solution Description

For the persistent storage in DBMS, four basic operations that are known as CRUD operations are as follows:

1. 'C' in CRUD stands for Create. It is accomplished using INSERT statement in SQL.
2. 'R' in CRUD stands for Read. It is accomplished using the SELECT statement in SQL.
3. 'U' in CRUD stands for Update. It is accomplished using UPDATE statements in SQL.
4. 'D' in CRUD stands for Delete. It is accomplished using the DELETE statement in SQL.

14-Tut : MCQ - 14

[Send Feedback](#)

Entity integrity states that primary key should be:

Options

This problem has only one correct answer

Null

Not null

Null and Not null

zero

Correct Answer : B

Solution Description

Entity Integrity Constraint puts constraints on Primary key i.e. primary should be unique and does not have NULL value.

15-Tut : MCQ - 15

[Send Feedback](#)

Referential integrity constraint states that foreign key should have a matching primary key or it must be not Null.

Options

This problem has only one correct answer

True

False

Correct Answer : B

Solution Description

A foreign key should have the matching primary key for its each value in the parent table or it should be NULL.

16-Tut : MCQ - 16

[Send Feedback](#)

In following table which integrity constraint is being violated:

Book_name	Book_code	Book_price	Author_name	Publish_date
Physics-1	011	180	Dr. Raj Nag	21-03-1996
Chemistry-1	021	200	Dr. Kiran Sethi	25-2-2001
Maths-1	031	175	Vipul Sen	1-6-2006
Grammar-1	021	150	Dr. Jay	11-6-2020

Options

[This problem has only one correct answer](#)

[Referential Integrity constraint](#)

[Key constraint](#)

[Domain constraint](#)

[Entity Integrity constraint](#)

Correct Answer : B

17-Tut : MCQ - 17

[Send Feedback](#)

For an attribute “Adhaar Number” which is defined as integer type, which constraint would be violated if we enter the PAN (has numbers and alphabets) in it

Options

[This problem has only one correct answer](#)

[Entity Integrity constraint](#)

[Key constraint](#)

[Domain constraint](#)

[Referential Integrity constraint](#)

Correct Answer : C

Solution Description

The domain integrity constraints restrict the value in the particular attributes. It defines which values should be considered valid for a particular attribute and which values would be invalid. Therefore, if we want to take email as

input in an attribute, then we can use domain constraints to ensure that email is valid. In this question, a similar situation is present as the Aadhar number is defined as an integer, which means the values entered in this attribute should contain digits only. On the other hand, the PAN number contains both digits and alphabets. This will result in the violation of domain integrity constraints and show Invalid status to the user.

18-Tut : MCQ - 18

[Send Feedback](#)

Which of the following is not a key constraint:

Options

This problem has only one correct answer

- Check
- Not Null
- Unique
- None of the above

[Correct Answer : D](#)

Solution Description

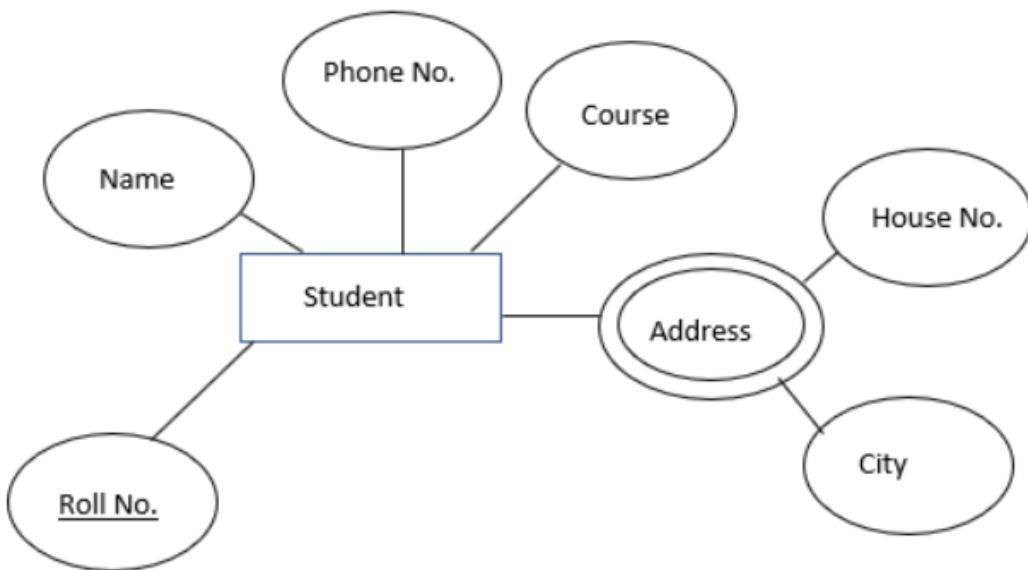
The six types of key constraints present in the Database management system are:-

1. NOT NULL: This constraint will restrict the user from not having a NULL value. It ensures that every element in the database has a value.
2. UNIQUE: It helps us to ensure that all the values consisting in a column are different from each other. Is is a part of the primary constraint
3. DEFAULT: it is used to set the default value to the column. The default value is added to the columns if no value is specified for them.
4. CHECK: It is one of the integrity constraints in DBMS. It keeps the check that integrity of data is maintained before and after the completion of the process
5. PRIMARY KEY: This is an attribute or set of attributes that can uniquely identify each entity in the entity set. The primary key must contain unique as well as not null values.
6. FOREIGN KEY: Whenever there is some relationship between two entities there must be some common attribute between them. This common attribute must be the primary key of an entity set and will become the foreign key of another entity set. This key will prevent every action which can result in loss of connection between tables.

19-Tut : MCQ - 19

[Send Feedback](#)

Which of the following relational database schemas is a correct representation for the following ER diagram:



Options

This problem has only one correct answer

- [Student\(Name, Phone no., Course, Roll No., House no., City\)](#)
- [Student\(Name, Phone no., Course, Roll No.\) Address\(House no., City, Roll no.\)](#)
- [Student\(Name, Phone no., Course, Roll No., Address, House no., City, Roll no.\)](#)
- [All of the above](#)

Correct Answer : B

Solution Description

In the following ER diagram, The rectangle in the ER diagram represents entity sets, whereas the ellipse represents attributes. Double ellipses represent multi-valued attributes. The rules for conversion of ER diagram to the relational schema are:

1. Every strong entity set can be converted into a relational schema by having the entity set name as the relation schema name.
2. Attributes of the entity sets are attributes in the relational schema.
3. For each multi-valued attribute, we have to create a separate table, and we should include the primary key of the strong entity set (parent entity set) as a foreign key attribute.

By Applying the information given above, we can say that the Entity student has five attributes, i.e. Name, Roll No., Phone No., Course and Address. Out of these five attributes, address is a multi-valued attribute and Name, Roll No., Phone No., and Course is single-valued attributes.

So, the relation 'Student' will have the fields: Name, Phone No., Course, RollNo. The address is further divided into two single-valued attributes, i.e. House No. and City.

So, a new relation 'Address' would be created having fields: House No. and City and a Foreign Key RollNo. To connect to "Students" relation.

20-Tut : MCQ - 20 (Relational Algebra)

[Send Feedback](#)

Relational algebra is :

Options

This problem has only one correct answer

Non procedural query language

High level language

Procedural query language

None of the above

Correct Answer : C

Solution Description

Relational Algebra is a procedural query language in which the user specifies the set of operations to be performed sequentially to get the desired output.

21-Tut : MCQ - 21

[Send Feedback](#)

Which of the following is true for selection operator:

Options

This problem has only one correct answer

It displays the specified columns

It selects the specified columns

It modifies the specified columns

It deletes the specified columns

Correct Answer : B

Solution Description

Selection operator is used to select some attributes or some tuples from the table. Example σ Cust_Name="Indu" (Customer) It will select a customer whose name is Indu but it'll not display. Note: This Select is DIFFERENT from MySQL SELECT.

22-Tut : MCQ - 22

[Send Feedback](#)

Which of the following should be used to list down all the names of the Book whose Book_price is less than 100 from the relation 'Book':

Options

This problem has only one correct answer

σ Book_name, Book_price<100(Book)

Π Book_name(σ Book_price<100(Book))

σ Book_name(σ Book_price<100(Book))

Π Book_price<100(Book))

Correct Answer : B

Solution Description

To list down all the names of the Book whose Book_price is less than 100 from the relation 'Book', we can use the projection operator(π) on the book_name attribute which is used to display the output. Then use the Selection operator(σ) on the book price attribute to fulfill the condition present in the question. The selection operator will get the desired data.

23-Tut : MCQ - 23

[Send Feedback](#)

What will be the result if set difference operator is applied as B-A on relations A and B

Options

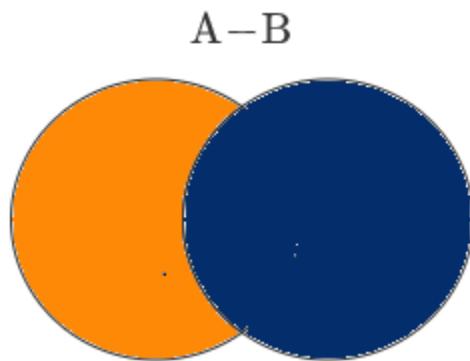
This problem has only one correct answer

- All rows of relation B
- All rows of relation B which are present in relation A
- All rows of relation B which are not present in relation A
- All rows common to relation B and relation A

Correct Answer : C

Solution Description

The set difference operator is an operator which takes the two sets as an input and returns the values that are present in the first set but absent in the second set. When the set difference operator is applied as B-A on relations A and B, the result will contain all rows of relation B which are not present in relation A.



24-Tut : MCQ - 24

[Send Feedback](#)

Relation A

Sno	Auhtor_Name
1	A
2	B
3	C

Relation B

Id	City	State
4	Agra	UP
5	Bhopal	MP
6	Imphal	Manipur

What would be the result from cartesian product of Relation A and B (A X B)

Options

This problem has only one correct answer

- The relation having 2 attributes and 6 tuples
- The relation having 5 attributes and 6 tuples
- The relation having 5 attributes and 9 tuples
- The relation having 2 attributes and 9 tuples

Correct Answer : C

Solution Description

The cartesian product is an operation used to combine each row in a given table with each row of another table. It is also known as the cross product. It means the product of the number of rows and the sum of the number of columns. So the Solution will be the cross product of A and B. As A has three rows and two columns, B has three rows and three columns. So Solution must be nine rows, and five columns as Columns and rows represent attributes and tuples. The answer must be 'c'.

25-Tut : MCQ - 25

[Send Feedback](#)

Which of the following would rename the “class” attribute to “course” in a relation called University

a. $\rho_{\text{class} \rightarrow \text{course}}(\text{University})$

b. $\sigma_{\text{class} = \text{course}}(\text{University})$

c. $\Pi_{\text{class}, \text{course}}(\text{University})$

Options

This problem has only one correct answer

a

b

c

None of the above

Correct Answer : A

Solution Description

A rename operator, denoted by ‘p’, will be used to rename the “class” attribute to “course” in a relation called University.

1- Practice Assignment

[Send Feedback](#)

With the help of ER Diagram designed in the previous module convert the Online delivery system and online doctor consultation system into relational models.

(Hint: identify the tables, attributes, relationships between tables, primary key and foreign key for the tables)

L5 : Introduction to SQL Practice Questions

1-Tut : MCQ - 1

[Send Feedback](#)

Which of the following is true for SQL:

Options

This problem has only one correct answer

SQL is a type of application

Structured Query Language is a software

SQL stands for Standard Query Language

SQL is a programming language

Correct Answer : D

Solution Description

SQL or Structured query language is a programming language that can be used to manipulate, retrieve, delete and store data into RDBMS.

2-Tut : MCQ - 2

[Send Feedback](#)

Which of the following is true:

Options

This problem may have one or more correct answers

MySQL and SQL, both are programming language

MySQL is an open-source DBMS

MySQL is a programming language

MySQL is a relational DBMS

Correct Answer : B , D

Solution Description

MySQL is an open-source Relational Database Management System.

3-Tut : MCQ - 3

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

MYSQL and SQL refer to the same thing which is RDBMS

MYSQL is a type of RDBMS whereas SQL is a programming language

SQL is a type of RDBMS whereas MySQL is a programming language
None of the above

Correct Answer : B

Solution Description

MySQL uses the Client-Server model. In this model, a "client" is a front-end application that uses the services provided by a MySQL server. And this whole use of the services takes place through SQL Queries. The difference between SQL and MySQL is shown below

SQL	MySQL
SQL is a Structured Query Language. It is useful to manage relational databases.	MySQL is an RDBMS to store, retrieve, modify and administrate a database using SQL.
SQL is a query language.	MySQL is used as an RDBMS database.
To query and operate database systems.	Allows data handling, storing, modifying, deleting in a tabular format.

4-Tut :

1-Tut : MCQ - 1

[Send Feedback](#)

Data Type for strings can be stored as

Options

This problem has only one correct answer

- Fixed length
- Variable length
- Both A and B
- None of the above

Correct Answer : C

Solution Description

Data Type Char for fixed length and Varchar for variable length can be used for strings.

2-Tut : MCQ - 9

[Send Feedback](#)

To store the City for the students in the table ‘Student_details’ we should:

Options

This problem has only one correct answer

- Declare City as Char(5)
- Declare City as BIGINT
- Declare City as Varchar
- All of the above

Correct Answer : C

Solution Description

Since, we do not know the length of City names which are to be stored in the table, hence we cannot fix it. Also, City cannot be in integers, therefore we should use Varchar.

3-Tut : MCQ - 10

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

- Boolean or Bool data type is inbuilt in MySQL
- Bool data type can be implemented using TINYINT data type
- Bool data type cannot be implemented in MySQL

Correct Answer : B

Solution Description

Bool data type is not provided as in built datatype in MySQL but can be implemented using the TINYINT.

4-Tut : MCQ - 11

[Send Feedback](#)

How will DECIMAL (7,2) be stored in MySQL?

Options

This problem has only one correct answer

A number having minimum 2 digit and maximum 7 digits

Total of 9 digits where 7 digits are significant digits/value and 2 digits after decimal

Total of 7 digits, having 2 digits after decimal

None of the above

Correct Answer : B

Solution Description

For DECIMAL(7,2), the significant digits would be 7, then the decimal point, after which we can specify 2 digits. So, the total digits that can be specified are $7+2= 9$. Eg: we can store 2364571.75.

5-Tut : MCQ - 12

[Send Feedback](#)

Which of the following is true:

Options

This problem has only one correct answer

By default INT stores signed value

Unsigned INT can store only positive values or 0

Signed INT can be used to store the temperature of a city

All of the above

Correct Answer : D

Solution Description

INT data type is used to store the integer values in SQL. It consists of two types i.e., signed INT and unsigned INT. The signed range is from -2147483648 to 2147483647. Signed INT is used to store values that can be negative or positive for example Temperature, Velocity, etc. The unsigned range is from 0 to 4294967295. It stores only positive values. By default, the INT data type stores values as signed INT.

6-Tut : MCQ - 14

[Send Feedback](#)

Which of the following data type stores the value in format "0000-00-00"

Options

This problem has only one correct answer

Time

Date

Datetime

Timestamp

Correct Answer : B

Solution Description

The DATE data type is stored in the format: YYYY-MM-DD. The supported range is from '1000-01-01' to '9999-12-31'.

7-Tut : MCQ - 15

[Send Feedback](#)

Timestamp data type provides both the date and the time value.

Options

This problem has only one correct answer

True

False

Correct Answer : A

Solution Description

TIMESTAMP values include the date plus the time .. The Format is: YYYY-MM-DD hh:mm:ss. The supported range is from '1970-01-01 00:00:01' UTC to '2038-01-09 03:14:07' UTC.

1-Tut : MCQ - 1

[Send Feedback](#)

Which of the following deals with database schemas and table structure :

Options

This problem has only one correct answer

- [DDL](#)
- [DML](#)
- [DCL](#)
- [DQL](#)

Correct Answer : A

Solution Description

Data Definition Language: is used to define, alter or delete database schemas and relations.

2-Tut : MCQ - 2

[Send Feedback](#)

Which of the following is true:

Options

This problem may have one or more correct answers

- DROP command removes the complete table structure from the database
- TRUNCATE command removes the complete table structure from the database
- TRUNCATE command removes all the tuples from the table but not the table
- DROP can be used to remove the complete objects such as database, table, views and they cannot be rolled back.

Correct Answer : A, C, D

Solution Description

DROP command can be used to remove complete objects such as databases, tables, views and they cannot be rolled back, so it must be used very carefully.

Truncate command is used to deallocate the contents of columns in a table for reuse, hence it's fast and reliable and data can be rolled back even after removing.

3-Tut : MCQ - 3

[Send Feedback](#)

ALTER command is a type of:

Options

This problem has only one correct answer

- [Data Manipulation language](#)
- [Data definition language](#)
- [Data control language](#)
- [None of the above](#)

Correct Answer : B

Solution Description

ALTER commands modifies the structure of the table and hence is a kind of Data Definition Language.

4-Tut : MCQ - 4

[Send Feedback](#)

Which of the following is not a part of data manipulation language :

Options

This problem has only one correct answer

[Insert](#)

[Rollback](#)

[Update](#)

[Delete](#)

Correct Answer : B

Solution Description

Rollback is a Transaction Control Language command.

5-Tut :

1-Tut : SQL Query - 8

[Send Feedback](#)

Problem Statement:

Enlist the email ids of all the interns along with their names.

Information about the table:

Attributes list:

		DATA TYPES
Emp_ID :-	Employee ID	INT
Emp_name :-	Employee Full Name	VARCHAR
Dept :-	Department Employee is working in.	VARCHAR
Contract :-	Full Time employee or Intern.	VARCHAR
Email :-	Employee official mail ID.	VARCHAR
HomeTown:-	Employees HomeTown.	VARCHAR

Table **Emp_data**:

Emp_ID	Emp_name	Dept	Contract	Email	HomeTown
546	Rakesh Matam	D1	FTE	fabcd1@xyz.com	Patna
1111	Kuldeep Ravaloya	D3	Intern	intdef1@xyz.com	Indore
670	Sugam Sehgal	D4	FTE	fabcd3@xyz.com	Himachal
1110	Sumit Mishra	D3	Intern	intdef2@xyz.com	Patna
890	Lokesh Daga	D2	FTE	fabcd5@xyz.com	Bikaner
700	Rakesh Matam	D3	FTE	fabcd6@xyz.com	Ludhiana
1251	Ram Kumar	D4	FTE	fabcd7@xyz.com	Guwahati
1300	Shayam Singh	D2	Intern	intdef3@xyz.com	Ludhiana
245	Neelabh Shukla	D4	FTE	fabcd8@xyz.com	Kota
210	Barkha Singh	D3	FTE	fabcd9@xyz.com	Mumbai
500	Rohan Arora	D5	Intern	intdef4@xyz.com	Jalandhar

Output Table Structure:

emp_name		email
-----	+	-----

Query : **SELECT Emp_name,Email FROM Emp_data WHERE Contract = 'Intern';**

2-Tut : SQL Query - 9

[Send Feedback](#)

Problem Statement:

Fetch the records of all employees of Department D3 with the FTE offer

Information about the table:

Attributes list:

Table **Emp_data**:

Output Table Structure:

emp_id	emp_name	dept	contract	email	hometown
--------	----------	------	----------	-------	----------

Query : **SELECT * FROM Emp_data WHERE dept = 'D3' AND contract = 'FTE';**

3-Tut : SQL Query - 10

[Send Feedback](#)

Problem Statement:

Fetch all the records of the employees working for department D1 or D3.

Query : **SELECT * FROM emp_data WHERE dept = 'D1' OR dept = 'D3';**

4-Tut : SQL Query - 12

[Send Feedback](#)

Problem Statement:

Fetch all the records of the employees working for department D1 or D3 using the IN clause

Query : **SELECT * FROM Emp_data WHERE dept IN ('D1','D3');**

5-Tut : SQL Query - 13

[Send Feedback](#)

Problem Statement:

Fetch all the records of employees that neither work for department D1 nor for D2.

Query : **select * from emp_data where dept not in ('D1','D2');**

6-Tut : SQL Query - 14

[Send Feedback](#)

Problem Statement:

List down the employee name and department that are either from Mumbai or Jalandhar and hold an employee Id numbered less than 900.

Query : **SELECT Emp_name,Dept FROM Emp_data WHERE HomeTown IN ('Mumbai','Jalandhar') AND Emp_ID < 900;**

7-Tut : SQL Query - 17

[Send Feedback](#)

Problem Statement:

Fetch all the records with Email ID's starting from 'fab'.

Query : **SELECT * FROM Emp_data WHERE Email LIKE 'fab%';**

8-Tut : SQL Query - 18

[Send Feedback](#)

Problem Statement:

List down all the employee id's and names whose Email contains 'bcd' and belongs to department D3 or D4 but aren't from Himachal, Guwahati.

Query : **SELECT Emp_ID,Emp_name FROM Emp_data WHERE Email LIKE '%bcd%' AND Dept IN ('D3','D4') AND HomeTown NOT IN ('Himachal','Guwahati');**

9-Tut : SQL Query - 23

[Send Feedback](#)

Problem Statement:

List down the Order ID's and their respective Ordering time, arranged in Ascending order by ordering time.

Information about the table:

Attributes list:

DATA TYPES	
order_id :- ID of orders done by customers.	VARCHAR
ordered_time :- Time at which orders were placed.	DATE
shipping_time :- Shipping time for those orders.	DATE
cost :- Cost of the product ordered.	INT
cust_id :- Customer ID for every order.	VARCHAR

Table e_transactions:

order_id	ordered_time	shipping_time	cost	cust_id
CN70101	2021-02-22	2021-02-28	5679	Cid065
CN70102	2021-02-22	2021-02-25	7999	Cid019
CN70103	2021-06-14	2021-06-18	1300	Cid07
CN70104	2021-07-07	2021-07-11	13299	Cid098
CN70105	2021-07-07	2021-07-12	1754	Cid032

Output Table Structure

order_id	ordered_time

Query : `SELECT order_id,ordered_time FROM e_transactions ORDER BY ordered_time ASC;`

10-Tut : SQL Query - 24

[Send Feedback](#)

Problem Statement:

Arrange the above-given data in descending order by Shipping time.

Query : `SELECT * FROM e_transactions ORDER BY Shipping_time DESC;`

11-Tut : SQL Query - 25

[Send Feedback](#)

Problem Statement:

Fetch out all the records but in descending order by ordering time and in case of similar order times sort in ascending order w.r.t. shipping time.

Query : `SELECT * FROM e_transactions ORDER BY ordered_time DESC, shipping_time ASC;`

12-Tut : SQL Query - 26

[Send Feedback](#)

Problem Statement:

List down all the order details in ascending order by cost and whose cost is less than 5000.

Query : `SELECT * FROM e_transactions AS e WHERE e.cost < 5000;`

13-Tut : SQL Query - 27

[Send Feedback](#)

Problem Statement:

List down the orders ids with their shipping time which were ordered before 30th June 2021 sort them in ascending order w.r.t. cost and in descending order w.r.t. time the purchase was made.

Query : `SELECT order_id, shipping_time FROM e_transactions AS e WHERE e.ordered_time < '2021-06-30' ORDER BY e.cost ASC, e.ordered_time DESC;`

14-Tut : SQL Query - 28

[Send Feedback](#)

Problem Statement:

List down all the details of the orders made in February 2021 or July 2021, also sort them in ascending order by their price.

Query 1 : `SELECT * FROM e_transactions as e WHERE e.ordered_time BETWEEN '2021-02-01' AND '2021-02-28' OR e.ordered_time BETWEEN '2021-07-01' AND '2021-07-31' ORDER BY e.cost ASC;`

Query 2 : SELECT * FROM e_transactions WHERE ordered_time LIKE '%-02-%' OR ordered_time LIKE '%-07-%' ORDER BY cost;

ASSIGNMENT :

15-Ass : SQL Query

[Send Feedback](#)

Given below is the Employee Data for a XYZ organisation, as visible we are provided with employee details with columns like,

		DATA TYPES
Emp_ID :- Employee ID		INT
Emp_name :- Employee Full Name		VARCHAR
Dept :- Department Employee is working in.		VARCHAR
Contract :- Full Time employee or Intern.		VARCHAR
Email :- Employee official mail ID.		VARCHAR
HomeTown:- Employees HomeTown.		VARCHAR

Table Emp_data:-

Emp_id	Emp_name	Dept	Contract	Email	HomeTown
546	Rakesh Matam	D1	FTE	fabcd1@xyz.com	Patna
1111	Kuldeep Rivaliya	D3	Intern	intdef1@xyz.com	Indore
670	Sugam Sehgal	D4	FTE	fabcd3@xyz.com	Himachal
1110	Sumit Mishra	D3	Intern	intdef2@xyz.com	Patna
890	Lokesh Daga	D2	FTE	fabcd5@xyz.com	Bikaner
700	Rakesh Matam	D3	FTE	fabcd6@xyz.com	Ludhiana
1251	Ram Kumar	D4	FTE	fabcd7@xyz.com	Guwahati
1300	Shayam Singh	D2	Intern	intdef3@xyz.com	Ludhiana
245	Neelabh Shukla	D4	FTE	fabcd8@xyz.com	Kota
210	Barkha Singh	D3	FTE	fabcd9@xyz.com	Mumbai
500	Rohan Arora	D5	Intern	intdef4@xyz.com	Jalandhar

Who are the employees with FTE offers but working with either department D1 or D3.

Query : SELECT * FROM Emp_data WHERE Contract = 'FTE' AND Dept IN ('D1','D3');

16-Ass : SQL Query

[Send Feedback](#)

Given below is the Employee Data for a XYZ organisation, as visible we are provided with employee details with columns like,

DATA TYPES

Emp_ID :- Employee ID	INT
Emp_name :- Employee Full Name	VARCHAR
Dept :- Department Employee is working in.	VARCHAR
Contract :- Full Time employee or Intern.	VARCHAR
Email :- Employee official mail ID.	VARCHAR
HomeTown:- Employees HomeTown.	VARCHAR

Table Emp_data:-

Emp_id	Emp_name	Dept	Contract	Email	HomeTown
546	Rakesh Matam	D1	FTE	fabcd1@xyz.com	Patna
1111	Kuldeep Rivaliya	D3	Intern	intdef1@xyz.com	Indore
670	Sugam Sehgal	D4	FTE	fabcd3@xyz.com	Himachal
1110	Sumit Mishra	D3	Intern	intdef2@xyz.com	Patna
890	Lokesh Daga	D2	FTE	fabcd5@xyz.com	Bikaner
700	Rakesh Matam	D3	FTE	fabcd6@xyz.com	Ludhiana
1251	Ram Kumar	D4	FTE	fabcd7@xyz.com	Guwahati
1300	Shayam Singh	D2	Intern	intdef3@xyz.com	Ludhiana
245	Neelabh Shukla	D4	FTE	fabcd8@xyz.com	Kota
210	Barkha Singh	D3	FTE	fabcd9@xyz.com	Mumbai
500	Rohan Arora	D5	Intern	intdef4@xyz.com	Jalandhar

List down all the Departments. (No repetitions allowed)

Query : `SELECT DISTINCT Dept FROM Emp_data;`

17-Ass : SQL Query

[Send Feedback](#)

Given below is the Employee Data for a XYZ organisation, as visible we are provided with employee details with columns like,

List down the emails of all employees with their names whose hometown is from any of these: Patna, Ludhiana, Bikaner.

Order of attributes for output table- Emp_name, Email

Query : SELECT Emp_name,Email FROM Emp_data WHERE HomeTown IN ('Patna','Ludhiana','Bikaner');

18-Ass : SQL Query - 27

[Send Feedback](#)

Problem Statement:

List down the orders ids with their shipping time which were ordered before 30th June 2021 sort them in ascending order w.r.t. cost and in descending order w.r.t. time the purchase was made.

Information about the table:

Attributes list:

DATA TYPES	
order_id :- ID of orders done by customers.	VARCHAR
ordered_time :- Time at which orders were placed.	DATE
shipping_time :- Shipping time for those orders.	DATE
cost :- Cost of the product ordered.	INT
cust_id :- Customer ID for every order.	VARCHAR

Table e_transactions:

order_id	ordered_time	shipping_time	cost	cust_id
CN70101	2021-02-22	2021-02-28	5679	Cid065
CN70102	2021-02-22	2021-02-25	7999	Cid019
CN70103	2021-06-14	2021-06-18	1300	Cid07
CN70104	2021-07-07	2021-07-11	13299	Cid098
CN70105	2021-07-07	2021-07-12	1754	Cid032

Output Table Structure

order_id | shipping_time

Query : SELECT order_id,shipping_time FROM e_transactions WHERE ordered_time < '2021-06-30' ORDER BY cost ASC, ordered_time DESC;

19-Ass : SQL Query

[Send Feedback](#)

Given below is the e-transaction data for an e-commerce website. As visible we are provided with order details done by different customers. Here,

DATA TYPES

order_id :- ID of orders done by customers.	VARCHAR
ordered_time :- Time at which orders were placed.	DATE
shipping_time :- Shipping time for those orders.	DATE
cost :- Cost of the product ordered.	INT
cust_id :- Customer ID for every order.	VARCHAR

Table e_transactions:-

order_id	ordered_time	shipping_time	cost	cust_id
CN70101	2021-02-22	2021-02-28	5679	Cid065
CN70102	2021-02-22	2021-02-25	7999	Cid019
CN70103	2021-06-14	2021-06-18	1300	Cid07
CN70104	2021-07-07	2021-07-11	13299	Cid098
CN70105	2021-07-07	2021-07-12	1754	Cid032

List down all the details of the orders made except for the ones whose cost were 1300,7999 and sort them in ascending order by the price.

Query : `SELECT * FROM e_transactions WHERE cost NOT IN (1300,7999) ORDER BY cost ASC;`

1-Tut : SQL query - 11

[Send Feedback](#)

Problem Statement:

Fetch the Number of employees for each role/Job.

Information about the table:

Attributes list:

							DATA TYPES
	EmpCode :- Unique code for each employee.						INT
	EmpFName :- Employee's First Name.						VARCHAR
	EmpLName :- Employee's Last Name.						VARCHAR
	Job:- Designation in the company..						VARCHAR
	Manager :- Manager of each employee.						CHAR
	HireDate:- The date when the employee was hired.						DATE
	Salary:- Salary offered in USD per month.						INT
	DeptCode:- Departments Code for respective departments.						INT

Table Employee data:

EmpCode	EmpFName	EmpLName	Job	Manager	HireDate	Salary	DeptCode
9369	TONY	STARK	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	TIM	ADOLF	SALESMAN	7698	1981-02-20	1600	30
9566	KIM	JARVIS	MANAGER	7839	1981-04-02	3570	20
9654	SAM	MILES	SALESMAN	7698	1981-09-28	1250	30
9782	KEVIN	HILL	MANAGER	7839	1981-06-09	2940	10
9788	CONNIE	SMITH	ANALYST	7566	1982-12-09	3000	20
9839	ALFRED	KINSLEY	PRESIDENT	7566	1981-11-17	5000	10
9844	PAUL	TIMOTHY	SALESMAN	7698	1981-09-08	1500	30
9876	JOHN	ASGHAR	SOFTWARE ENGINEER	7788	1983-01-12	3100	20
9900	ROSE	SUMMERS	TECHNICAL LEAD	7698	1981-12-03	2950	20
9902	ANDREW	FAULKNER	ANALYST	7566	1981-12-03	3000	10
9934	KAREN	MATTHEWS	SOFTWARE ENGINEER	7782	1982-01-23	3300	20
9591	WENDY	SHAWN	SALESMAN	7698	1981-02-22	500	30
9698	BELLA	SWAN	MANAGER	7839	1981-05-01	3420	30
9777	MADII	HIMBURY	ANALYST	7839	1981-05-01	2000	NULL
9860	ATHENA	WILSON	ANALYST	7839	1992-06-21	7000	50

Output Table Structure:

Job	count(job)

Query : **SELECT Job,COUNT(Job) FROM Employee_data GROUP BY Job;**

2-Tut : SQL query - 12[Send Feedback](#)**Problem Statement:**

List out the number of employees for each distinct Role corresponding with their department code.

Output Table Structure:

Job	DeptCode	count(*)

Query : **SELECT Job,DeptCode,COUNT(*) FROM Employee_data GROUP BY Job,DeptCode;**

3-Tut : SQL query - 13[Send Feedback](#)**Problem Statement:**

List down the maximum salaries for each Job role

Output Table Structure:

Job	max(Salary)

Query : **SELECT Job,MAX(Salary) FROM Employee_data GROUP BY Job;**

4-Tut : SQL query - 14[Send Feedback](#)**Problem Statement:**

List down the average salary given out for each department for specific Job roles.

Output Table Structure:

Job	DeptCode	avg(Salary)

Query : **SELECT Job,DeptCode,AVG(Salary) FROM Employee_data GROUP BY Job,DeptCode;**

5-Tut : SQL query - 15

[Send Feedback](#)

Problem Statement:

List down the minimum salaries offered for each job role in each department, although list them in descending order based on the max salaries being offered for that role.

Output Table Structure:

Job	DeptCode	min(Salary)

Query : `SELECT Job,DeptCode,MIN(Salary) FROM Employee_data GROUP BY Job,DeptCode ORDER BY MAX(Salary) DESC;`

6-Tut : SQL query - 19

[Send Feedback](#)

Problem Statement:

List down the jobs having an average salary more than 3000 USD.

Output Table Structure:

Job

Query : `SELECT Job FROM Employee_data GROUP BY Job HAVING AVG(Salary) > 3000;`

7-Tut : SQL query - 20

[Send Feedback](#)

Problem Statement:

List down the department's codes that pay their employees (combined) more than 5000 USD and list them in ascending order of the minimum salary offered by each department.

Query : `SELECT DeptCode FROM Employee_data GROUP BY DeptCode HAVING SUM(salary) > 5000 ORDER BY MIN(Salary) ASC;`

8-Tut : SQL query - 21

[Send Feedback](#)

Problem Statement:

List down the managers handling more than 2 employees, and make sure those employees don't belong to departments 10 and 20.

Output Table Structure:

Manager	count(Manager)

Query : `SELECT Manager,COUNT(Manager) FROM Employee_data WHERE DeptCode NOT IN (10,20) GROUP BY Manager HAVING COUNT(Manager) > 2;`

9-Tut : SQL query - 22

[Send Feedback](#)

Problem Statement:

For All the Analyst jobs list down the maximum salaries offered to them in different departments and under different managers, list all the details in ascending order based on the combined salary given out by that department.

Output Table Structure:

Job	DeptCode	Manager	max(Salary)

Query : `SELECT Job,DeptCode,Manager,MAX(Salary) FROM Employee_data WHERE Job IN ('ANALYST') GROUP BY Job,DeptCode,Manager ORDER BY SUM(Salary) ASC;`

Queries with Tables & Constraints

1-Tut: SQL Query - 1

[Send Feedback](#)

Problem Statement :

Write a query for creating a table named **People**, which contains information given in the table below:

Attribute	Data Type
PID	INT (Primary Key)
LastName	VARCHAR
FirstName	VARCHAR
Address	VARCHAR
City	VARCHAR

Print the Table schema once created as follows:

```
SELECT table_name, column_name, data_type  
FROM information_schema.columns  
WHERE table_name =<TABLE_NAME>  
ORDER BY column_name;
```

Note: Write keywords of syntax in uppercase alphabets.

```
CREATE TABLE People (PID INT UNIQUE,  
                    FirstName VARCHAR(255),  
                    LastName VARCHAR(255),  
                    Address VARCHAR(255),  
                    City VARCHAR(255));
```

```

SELECT
table_name,
column_name,
data_type
FROM
information_schema.columns
WHERE
table_name = 'People'
ORDER BY
column_name;

```

2-Tut: SQL Query -2

[Send Feedback](#)

Problem Statement :

Write a query for creating a table named **Patients**, which contains the attribute given in the table below:

Attribute	Data Type
Patient_id	INT (Primary Key)
Patient_title	CHAR (NOT NULL)
Patient_name	CHAR (NOT NULL)
admit_date	DATE

Print the Table Schema once created as follows:

```

SELECT table_name, column_name, data_type
FROM information_schema.columns
WHERE table_name = <TABLE_NAME>
ORDER BY column_name;

```

Note: Write keywords of syntax in uppercase alphabets.

```

CREATE TABLE Patients (Patient_id INT NOT NULL,
Patient_title CHAR(255) NOT NULL,
Patient_name CHAR(255) NOT NULL,
admit_date DATE,PRIMARY KEY(Patient_id));

```

```
SELECT  
table_name,  
column_name,  
data_type  
FROM  
information_schema.columns  
WHERE  
table_name = 'Patients'  
ORDER BY  
column_name ;
```

3-Tut : MCQ - 1

[Send Feedback](#)

Which of the following can accept NULL values?

Options

This problem has only one correct answer

Primary Key

Unique Key

Both

None of the above

[Correct Answer : B](#)

Solution Description

A primary key defines the columns that uniquely identify rows in a table. When you create a primary key constraint, none of the columns included in the primary key can have NULL constraints; so Primary Key does not permit NULL values.

However, You can insert NULL values into columns with the UNIQUE constraint because NULL is there due to the absence of a value, so actually, it is never equal to other NULL values and hence not considered a duplicate value

4-Tut : MCQ - 2

[Send Feedback](#)

Which of the following is not a Key in MySQL?

Options

This problem has only one correct answer

Primary

Secondary

Alternate

Foreign

[Correct Answer : B](#)

Solution Description

There is no “secondary” key type in SQL, instead, there is an “Alternate” key type.

5-Tut: MCQ - 3

[Send Feedback](#)

Which of the following statements regarding Foreign Key is Incorrect.

- Statement - 1 : Foreign key is used to link two tables together.**
- Statement - 2 : Foreign key allows inserting NULL values.**
- Statement - 3 : Foreign key doesn't allow inserting NULL values.**
- Statement - 4 : Foreign key uniquely identifies tuples of a relation.**

Options

This problem has only one correct answer

- [3 & 4](#)
- [2 & 4](#)
- [2, 3 & 4](#)
- [1, 3 & 4](#)

Correct Answer : A

Solution Description

The foreign key is used to link two tables, via adjoining common column.

The foreign key is the primary key of another table, and it is possible to have more than one foreign key in a particular table.

Though NULL values are not allowed in the case of the primary key, it is allowed in the case of the foreign key.

The Primary key uniquely identifies tuples of a relation. If there is another key uniquely identifying the tuples of relation, than that key will be called the Candidate key.

6-Tut : SQL Query - 4

[Send Feedback](#)

Problem Statement:

Consider the tables given below:

1. The table **users** contains features like *id*, *full_name*, *enabled*, *last_login*. The attribute *id* here will be the *primary key*.

Attribute	Datatype
<i>id</i>	INT (Primary key)
<i>full_name</i>	VARCHAR
<i>enabled</i>	CHAR
<i>last_login</i>	VARCHAR

Attribute List(s):

2.The table **addresses** contains features like *user_id*, *street*, *city*, *state*. The *user_id* here will be the *primary key* as well as *foreign key* that refers to *id(users table)*. The attributes *street*, *city* and *state* should be declared *NOT NULL*.

Attribute List(s):

Attribute	Datatype
user_id	INT (Primary key)
street	VARCHAR
city	VARCHAR
state	VARCHAR

Formulate a SQL query to create these tables with all the constraints given along with the table. Also, add constraints to correlate these tables.

Print the Table Schema for each table created as follows:

```
SELECT table_name, column_name, data_type  
FROM information_schema.columns  
WHERE table_name = <TABLE_NAME>;
```

Note - 1: First print table **users** and then **addresses**. Position the above command just after the CREATE TABLE command for each table.

Note - 2: Write keywords of syntax in uppercase alphabets.

```
CREATE TABLE users(id INT UNIQUE NOT NULL,  
    full_name VARCHAR(255),  
    enabled CHAR,  
    last_login DATE);
```

```
SELECT  
table_name,  
column_name,  
data_type  
FROM  
information_schema.columns  
WHERE  
table_name = 'users';
```

```

CREATE TABLE addresses(user_id INT PRIMARY KEY,
                      FOREIGN KEY(user_id) REFERENCES users(id),
                      street VARCHAR(255) NOT NULL,
                      city VARCHAR(255) NOT NULL,
                      state VARCHAR(255) NOT NULL);

SELECT
    table_name,
    column_name,
    data_type
FROM
    information_schema.columns
WHERE
    table_name = 'addresses';

```

7-Tut : SQL Query - 5

[Send Feedback](#)

Problem Statement:

Consider the tables given below and formulate a SQL query to create these tables with all the constraints.

1. The table **books** contain features like *id*, *title*, *author*, *publish_date*, *isbn*. The *id* should be declared as *PRIMARY KEY*. The *isbn* should be declared *UNIQUE*. The attributes *title*, *author* and *publish_date* should be declared *NOT NULL*.

Attribute	Data type
<i>id</i>	INT (Primary Key)
<i>title</i>	VARCHAR (100)
<i>author</i>	VARCHAR (100)
<i>publish_date</i>	TIMESTAMP
<i>isbn</i>	CHAR (12)

2. The Table **reviews** contains features like *id*, *book_id*, *reviewer_name*, *content*, *rating*, *published_date* . The *id* should be declared *PRIMARY KEY* . The *bookid* should be declared *FOREIGN KEY* referred to *id* (table **book**) . The attribute *bookid* should be declared *NOT NULL* .

Attribute	Data type
id	INT (Primary Key)
book_id	INT
reviewer_name	VARCHAR (255)
content	VARCHAR (255)
rating	INT
publish_date	TIMESTAMP

Print the Table Schema for each table created as follows:

```
SELECT table_name, column_name, data_type
FROM information_schema.columns
WHERE table_name = <TABLE_NAME>;
```

Note - 1: First print table **books** and then **reviews**. Position the above command just after the CREATE TABLE command for each table.

Note - 2: Write keywords of syntax in uppercase alphabets.

```
CREATE TABLE books(id int Primary Key,
                  title varchar(255) NOT NULL,
                  author varchar(255) NOT NULL,
                  published_date TIMESTAMP NOT NULL,
                  isbn CHAR UNIQUE);
```

```
SELECT
table_name,
column_name,
data_type
FROM
information_schema.columns
WHERE
table_name = 'books';
```

```
CREATE TABLE reviews(id int Primary Key,  
book_id int NOT NULL,  
foreign key(book_id) references books(id),  
reviewer_name varchar,  
content varchar,  
rating int,  
published_date TIMESTAMP );
```

```
SELECT  
table_name,  
column_name,  
data_type  
FROM  
information_schema.columns  
WHERE  
table_name = 'reviews';
```

8-Tut : SQL Query - 3

[Send Feedback](#)

Problem Statement:

Write multiple queries to create two tables named customer and contacts:

1. The table **customer** contains features like ID, Name, City where all columns are never NULL. The ID here will be the primary key.

Attribute	Data Type
ID	INT (Primary Key)
Name	VARCHAR (50)
City	VARCHAR (50)

2. The Table **contacts** contain features like ID, Customer_Id, Customer_info, Type. Customer_id being a foreign key that refers to ID(customer table). Also Customer_info and Type are never NULL.

Attribute	Data Type
ID	INT (Primary Key)
Customer_Id	INT
Customer_Info	VARCHAR (50)
Type	VARCHAR (50)

Note: Describe both the tables as well. The syntax for describe is given below. Describe the Customer table first and then Contacts Table.

```
DESC <TABLE_NAME>;
```

Note: Write keywords of syntax in uppercase alphabets.

```
create table customer(id int PRIMARY KEY,
                      name varchar(50) NOT NULL,
                      city varchar(50) NOT NULL);

create table contacts(id int,
                      customer_id int,
                      foreign key(customer_id) references customer(id),
                      customer_info varchar(50) NOT NULL,
                      type varchar(50) NOT NULL);

DESC customer;
desc contacts;
```

9-Tut : SQL Query - 6

[Send Feedback](#)

Problem Statement :

Given a table named **members**, write a query to add a column named cc_number (Datatype - VARCHAR).

Note : Print the Table Schema once created as follows:

```
SELECT table_name, column_name, data_type
FROM information_schema.columns
WHERE table_name = <TABLE_NAME>
```

```
ORDER BY column_name;
```

Note: Write keywords of syntax in uppercase alphabets.

```
ALTER TABLE members add cc_number VARCHAR(20);
```

```
SELECT  
table_name,  
column_name,  
data_type  
FROM  
information_schema.columns  
WHERE  
table_name = 'members'  
ORDER BY  
column_name;
```

10-Tut : SQL Query - 7

[Send Feedback](#)

Problem Statement :

Given a table named Bank, write a query to change the existing column person_id to Pid VARCHAR(50).

table **Bank**

Attribute	Data type
person_id	INT (Primary Key)
full_name	VARCHAR (30)
acc_no	INT
last_trans	VARCHAR (200)
phone_no	VARCHAR (200)

Syntax to describe the above table.

```
DESC <TABLE_NAME>;
```

Note: Write keywords of syntax in uppercase alphabets.

```
ALTER TABLE Bank CHANGE column person_id Pid varchar(50);
DESC Bank;
```

11-Tut : MCQ - 4

[Send Feedback](#)

Which statement is used to delete all rows in a table without logging the individual row deletions?

Options

This problem has only one correct answer

DELETE
REMOVE
DROP
TRUNCATE

Correct Answer : D

Solution Description

TRUNCATE Command removes all rows from a table or specified partitions of a table without logging the individual row deletions.

12-Tut : SQL Query - 8

[Send Feedback](#)

Problem Statement :

Given a table named members, write a query to remove a column named member_dob.

Print the Table Schema once created as follows:

```
SELECT table_name, column_name, data_type
FROM information_schema.columns
WHERE table_name = <TABLE_NAME>
ORDER BY column_name;
```

Note: Write keywords of syntax in uppercase alphabets.

```
alter table members drop member_dob;
```

```
SELECT
    table_name,
    column_name,
    data_type
FROM
    information_schema.columns
WHERE
    table_name = 'members'
ORDER BY
    column_name ;
```

13-Tut : SQL Query - 9

[Send Feedback](#)

Problem Statement :

Write a query to rename the Table consumers to Consumer_Data.

Print the Table Schema once created as follows:

```
SELECT table_name, column_name, data_type  
FROM information_schema.columns  
WHERE table_name = <TABLE_NAME>  
ORDER BY column_name;
```

Note: Write keywords of syntax in uppercase alphabets.

Alter table consumers rename to Consumer_data;

```
SELECT  
    table_name,  
    column_name,  
    data_type  
FROM  
    information_schema.columns  
WHERE  
    table_name = 'consumer_data'  
ORDER BY  
    column_name;
```

14-Tut : SQL Query

[Send Feedback](#)

Problem Statement :

Write a SQL query to remove the attribute 'last_login' and rename the 'full_name' to 'customer_name' in the customer table.

Table **customer**

Attribute	Data type
Id	INT (Primary Key)
full_name	VARCHAR (30)
totalOrders	INT
last_login	DATE
phone_no	VARCHAR (200)

Syntax to describe the table.

DESC <TABLE_NAME>;

Note: Write keywords of syntax in uppercase alphabets.

ALTER TABLE customer drop COLUMN last_login;

ALTER TABLE customer RENAME COLUMN full_name to customer_name;

DESC customer;

L11 : Modifying Data

1-Tut : SQL Query - 1

[Send Feedback](#)

Problem statement :

Formulate a query to add records to table **tutorials**.

Attribute	Data type	Value to be added
tutorial_title	VARCHAR	"Learn MySQL"
tutorial_author	VARCHAR	"Balachandra Raju"
submission_date	DATE	"01-09-2021"

Note: Print the table after adding the values.

```
insert into tutorials (tutorial_title,tutorial_author,submission_date)
    values("Learn MySQL","Balachandra Raju", "01-09-2021");
SELECT * FROM tutorials;
```

2-Tut : SQL Query - 2

[Send Feedback](#)

Problem Statement

Formulate a query to add a record, where you only fill in columns Roll_no, std_name, Age with the given data:

(7, Shantnu, 21)

Information about the table:

Attribute lists of table **Students**

Attribute	Data type
Roll_no	INT
std_name	CHAR (200)
Address	CHAR (200)
Phone	CHAR (200)
Age	INT

Note: Print the complete table after adding the values.

```
insert into Students (Roll_no, std_Name, Age)
```

```
    values (7, 'Shantnu', 21);
```

```
SElect * from Students;
```

3-Tut : **SQL Query - 3**

[Send Feedback](#)

Problem Statement:

Given a table named **stud_data**, formulate a query to change the **Fname and Age** of the already entered record to (**Neelabh, 22**) of roll number **17**.

Information about the table

Table **stud_data** :

roll_no	Fname	Age
17	Rishi	23
7	Shantnu	21
10	Ojasv	19
50	Lokesh	23
21	Kuldeep	20

Note: Print the complete table after updating the data.

```
UPDATE stud_data set Fname = 'Neelabh', Age = 22 where roll_no = 17;
```

```
select * from stud_data;
```

4-Tut : SQL Query - 4

[Send Feedback](#)

Problem Statement:

Consider a table named products, formulate a query deleting the record where product_id = 596 or 700.

Information about the table:

product_id	pname	p_mfd
345	oneplus	2021-01-01
596	iphone	2021-07-22
132	MI	2021-03-09
482	vivo	2021-09-01
700	oppo	2021-04-14

Table **products** :

Note: Print the complete table after deleting the data.

DELETE from products where product_id in (596,700);

select * from products;

5-Tut : SQL Query - 5

[Send Feedback](#)

Problem Statement

Given the table cities, form a query using REPLACE, to update/add the given data:

Attribute	Updated value
id	4
cname	Phoenix
population	1768980

Information about the table

Table **cities** :

id	cname	population
1	chicago	2746388
2	New York	8483190
5	LA	3689867

Note: Print the table afterwards.

```
replace into cities(id,cname,population) values(4,'Phoenix',1768980);
select * from cities;
```

L12 : Joining Tables

1-Tut : SQL Query - 1

[Send Feedback](#)

Problem Statement:

Enlist all the employees ID's, names along with the Project allocated to them.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table **Client_d**:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplD
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

```
+-----+-----+-----+-----+-----+
| EmpID | EmpFname | EmpLname | ProjectID | ProjectName |
+-----+-----+-----+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee ID to link the two tables.

```
SELECT e.EmpID,e.EmpFname,e.EmpLname,p.ProjectID,p.ProjectName
FROM Employee as e inner join Project as p
ON e.EmpID = p.EmpID;
```

2-Tut : SQL Query - 2

[Send Feedback](#)

Problem Statement:

Fetch out all the employee ID's and their contact details who have been working from Delhi with the clients name working in Kolkata.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table Client_d:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplID
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

EmpID	EmailID	PhoneNo	ClientFname	ClientLname
-------	---------	---------	-------------	-------------

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee ID to link the two tables.

```
select e.EmpID,e.EmailID,e.PhoneNo,c.ClientFname,c.ClientLname
from Employee as e inner join Client_d as c on c.EmplID = e.EmpID
Where e.City in ('Delhi') OR c.City in ('Kolkata');
```

3-Tut : SQL Query - 3

[Send Feedback](#)

Problem Statement:

List out all the project names with corresponding client's email id, for all the projects that were allocated after April 2021 and order them in descending order of the age of clients.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table Client_d:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplD
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

```
+-----+-----+
| ProjectName | ClientEmailID |
+-----+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use client ID to link the two tables.

```
SELECT p.ProjectName,c.ClientEmailID
FROM Project as p inner join client_d as c on c.clientid = p.clientid
where ProjectStartDate > '2021-04-30' order by c.Age DESC;
```

4-Tut : SQL Query - 4

[Send Feedback](#)

Problem Statement:

Fetch out each project allocated to which employee.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table Client_d:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplID
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

```
+-----+-----+-----+
| EmpFname | EmpLname | ProjectID | ProjectName |
+-----+-----+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee ID to link the two tables.

```
select e.EmpFname,e.EmpLname,p.ProjectID,p.ProjectName
from Employee e left join Project p on e.EmpID = p.EmpID;
```

5-Tut : SQL Query- 5

[Send Feedback](#)

Problem Statement:

List out all the projects along with the employee's name and their respective allocated email ID.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table **Client_d**:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplD
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

ProjectID	ProjectName	EmpFname	EmpLname	EmailID
-----------	-------------	----------	----------	---------

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee ID to link the two tables.

```
SELECT p.ProjectID,p.ProjectName,e.EmpFname,e.EmpLname,e.EmailID
from Project as p left join Employee as e on e.EmplD = p.EmplD;
```

6-Tut : SQL Query- 6

[Send Feedback](#)

Problem Statement:

List out all the client details email address, whose age is between 25 to 35, along with the projects assigned to them in ascending order of their age and project ID. Also, use c for client_d and p for project, as alias name of tables.

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table Client_d:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplID
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

```
+-----+-----+-----+-----+-----+
| ClientID | ClientFname | ClientLname | ClientEmailID | ProjectID | ProjectName |
+-----+-----+-----+-----+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use client ID to link the two tables.

```
select c.ClientID,c.ClientFname,c.ClientLname,c.ClientEmailID,p.ProjectID,p.ProjectName
from Client_d as c left join project as p on c.ClientID = p.ClientID
where c.Age between 25 and 35
ORDER BY c.age,p.ProjectId;
```

Note : Can use Right Join also

7-Tut : SQL Query - 7

[Send Feedback](#)

Problem Statement:

List out all the combinations possible for the employee's name and projects that can exist(NULL included).

Information about the table:

Table Employee:

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmpID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Table **Client_d**:

ClientID	ClientFname	ClientLname	Age	ClientEmailID	PhoneNo	City	EmplD
1	Steve	Rogers	47	steve@avg.com	986674443	Kolkata	3
2	Dustin	Poirier	27	dustin@ufc.com	996767643	Kolkata	3
3	Avinash	Jain	24	avinash@leg.com	876588971	Delhi	1
4	Sushant	Aggarwal	23	sushant@tek.com	744355585	Hyderabad	5
5	Param	Singh	36	param@xyz.com	674445556	Mumbai	2

Output Table Structure:

EmpFname	EmplName	ProjectID
----------	----------	-----------

Note: Write keywords of syntax in uppercase alphabets.

```
select e.EmpFname,e.EmpLname,p.ProjectID  
from Employee as e cross join Project as p;
```

L13 : SET Operations

1-Tut : SQL Query - 1

[Send Feedback](#)

Problem Statement:

Using the tables given below, list out all the employees of the company.

Information about the table:

Table **Empdept1**:

EmpCode	EmpFName	EmpLName	Job
9369	TONY	STARK	SOFTWARE ENGINEER
9499	TIM	ADOLF	SALESMAN
9566	KIM	JARVIS	MANAGER
9654	SAM	MILES	SALESMAN

Table **Empdept2**:

EmpCode	EmpFName	EmpLName	Job
9566	KIM	JARVIS	MANAGER
9902	ANDREW	FAULKNER	ANALYST
9685	SAMAY	DAGA	SALESMAN

Output Table Structure:

```
+-----+-----+-----+-----+
| EmpCode | EmpFName | EmpLName | Job      |
+-----+-----+-----+-----+
```

Note-1: The data should not contain duplicate rows of employees.

Note-2: Write keywords of syntax in uppercase alphabets.

```
Select * from Empdept1
union
select * from Empdept2;
```

2-Tut : SQL Query - 2

[Send Feedback](#)

Problem Statement:

List down employees (all the details) from both the departments who work as Salesman.

Information about the table:Table **Empdept1**:

EmpCode	EmpFName	EmpLName	Job
9369	TONY	STARK	SOFTWARE ENGINEER
9499	TIM	ADOLF	SALESMAN
9566	KIM	JARVIS	MANAGER
9654	SAM	MILES	SALESMAN

Table **Empdept2**:

EmpCode	EmpFName	EmpLName	Job
9566	KIM	JARVIS	MANAGER
9902	ANDREW	FAULKNER	ANALYST
9685	SAMAY	DAGA	SALESMAN

Output Table Structure:

EmpCode	EmpFName	EmpLName	Job
---------	----------	----------	-----

Note-1: The data should contain duplicate rows of employees.

Note-2: Write keywords of syntax in uppercase alphabets.

```
select * from Empdept1 where job = 'SALESMAN'
union
select * from Empdept2 where job = 'SALESMAN';
```

3-Tut : SQL Query - 3[Send Feedback](#)**Problem Statement:**

List out each employee name and employee code from both the departments and order them in ascending order by their code.

Information about the table:Table **Empdept1**:

EmpCode	EmpFName	EmpLName	Job
9369	TONY	STARK	SOFTWARE ENGINEER
9499	TIM	ADOLF	SALESMAN
9566	KIM	JARVIS	MANAGER
9654	SAM	MILES	SALESMAN

Table Empdept2:

EmpCode	EmpFName	EmpLName	Job
9566	KIM	JARVIS	MANAGER
9902	ANDREW	FAULKNER	ANALYST
9685	SAMAY	DAGA	SALESMAN

Output Table Structure:

```
+-----+-----+-----+
| EmpFName | EmpLName | EmpCode |
+-----+-----+-----+
```

Note-1: Duplicates are allowed.

Note-2: Write keywords of syntax in uppercase alphabets.

```
select EmpFname,EmpLName,EmpCode from Empdept1
union all
select EmpFname,EmpLName,EmpCode from Empdept2 order by EmpCode ASC;
```

4-Tut : SQL Query - 4

[Send Feedback](#)

Problem Statement:

Find out all the details of employees that work for both the departments.

Information about the table:

Table Empdept1: :

EmpCode	EmpFName	EmpLName	Job
9369	TONY	STARK	SOFTWARE ENGINEER
9499	TIM	ADOLF	SALESMAN
9566	KIM	JARVIS	MANAGER
9654	SAM	MILES	SALESMAN

Table Empdept2:

EmpCode	EmpFName	EmpLName	Job
9566	KIM	JARVIS	MANAGER
9902	ANDREW	FAULKNER	ANALYST
9685	SAMAY	DAGA	SALESMAN

Output Table Structure:

```
+-----+-----+-----+-----+
| EmpCode | EmpFName | EmpLName | Job |
+-----+-----+-----+-----+
```

Note-1: The data should not contain duplicate rows of employees.

Note-2: Write keywords of syntax in uppercase alphabets.

```
SELECT DISTINCT
Empdept1.EmpCode,Empdept1.EmpFName,Empdept1.EmpLName,Empdept1.Job
FROM Empdept1
INNER JOIN Empdept2 ON Empdept1.EmpCode=Empdept2.EmpCode;
```

5-Tut : SQL Query - 10

[Send Feedback](#)

Problem Statement:

List down all the details of employees working in dept1 but not in Dept2.

Information about the table:

Table Empdept1: :

EmpCode	EmpFName	EmpLName	Job
9369	TONY	STARK	SOFTWARE ENGINEER
9499	TIM	ADOLF	SALESMAN
9566	KIM	JARVIS	MANAGER
9654	SAM	MILES	SALESMAN

Table Empdept2:

EmpCode	EmpFName	EmpLName	Job
9566	KIM	JARVIS	MANAGER
9902	ANDREW	FAULKNER	ANALYST
9685	SAMAY	DAGA	SALESMAN

Output Table Structure:

```
+-----+-----+-----+-----+
| EmpCode | EmpFName | EmpLName | Job |
+-----+-----+-----+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee code to link the two tables.

```
SELECT Empdept1.EmpCode,Empdept1.EmpFName,Empdept1.EmpLName,Empdept1.Job
FROM Empdept1
LEFT JOIN Empdept2
ON Empdept1.EmpCode=Empdept2.EmpCode
WHERE
Empdept2.EmpCode IS NULL;
```

6-Tut : SQL query - 11

[Send Feedback](#)

Problem Statement:

Formulate a MySQL query to list out all the projects(id, name) and employee's names (first, last) along with their respective Email id's irrespective of the fact if that project is assigned or not and whether an employee is assigned any project or none.

Information about the table:

Table Employee: :

EmpID	EmpFname	EmpLname	Age	EmailID	PhoneNo	City
1	Riya	Khanna	21	riya@abc.com	987655443	Delhi
2	Sahil	Kumar	32	sahil@abc.com	987657643	Mumbai
3	Vishwas	Aanand	24	vishwas@abc.com	987658871	Kolkata
4	Harleen	Kaur	27	harleen@abc.com	987677585	Bengaluru
5	Priyanshu	Gupta	23	priyanshu@abc.com	956758556	Hyderabad

Table Project:

ProjectID	EmplID	ProjectName	ProjectStartDate	ClientID
100	1	pro_1	2021-04-21	3
200	2	pro_2	2021-03-12	1
300	3	pro_3	2021-01-16	5
400	3	pro_4	2021-04-27	2
500	5	pro_5	2021-05-01	4
600	9	pro_6	2021-01-19	1
700	7	pro_7	2021-08-27	2
800	8	pro_8	2021-09-15	3

Output Table Structure:

ProjectID	ProjectName	EmpFname	Empllname	EmailID
------------------	--------------------	-----------------	------------------	----------------

Hint: Use Full Join, but MySql doesn't support the "Full Join" clause.

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2: Use employee ID to link the two tables.

```

SELECT Project.ProjectID, Project.ProjectName, Employee.EmpFname, Employee.EmpLname,
Employee.EmailID FROM Project
LEFT JOIN Employee ON Project.EmpID = Employee.EmpID
UNION
SELECT Project.ProjectID, Project.ProjectName, Employee.EmpFname, Employee.EmpLname,
Employee.EmailID FROM Project
RIGHT JOIN Employee ON Project.EmpID = Employee.EmpID;
    
```

L14 : SubQueries

1-Tut : SQL query - 6

[Send Feedback](#)

Problem Statement:

List down all the Employees whose salary is greater than that of Monica Geller.

Information about the table:

Table Employee:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	3200	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1100	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3200	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	3200	30
9782	Monica Geller	MANAGER	7839	1981-06-09	3200	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3200	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

```
+-----+  
| EmpName |  
+-----+
```

Note-1: Write keywords of syntax in uppercase alphabets.

Note-2 : You are not authorized to view the salaries of the employees.

```
SELECT EmpName  
FRom Employee  
where  
salary > (select salary from Employee where Empname = 'Monica Geller');
```

2-Tut : SQL query - 7

[Send Feedback](#)

Problem Statement:

List down all the employees whose job is the same as Phoebe Buffay.

Information about the table:

Table Employee:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1600	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3570	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	1250	30
9782	Monica Geller	MANAGER	7839	1981-06-09	2940	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3000	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

EmpName	Salary	DeptCode	Job

Note: Write keywords of syntax in uppercase alphabets.

```
select EmpName,Salary,DeptCode,Job  
FROM Employee  
WHERE Job IN (SELECT Job From Employee WHERE EmpName = 'Phoebe Buffay');
```

3-Tut : SQL query - 8

[Send Feedback](#)

Problem Statement:

List down the min salary with the employee name for all the departments.

Information about the table:

Table Employee:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1600	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3570	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	1250	30
9782	Monica Geller	MANAGER	7839	1981-06-09	2940	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3000	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

```
+-----+-----+-----+
| EmpName | Salary | DeptCode |
+-----+-----+-----+
```

```
SELECT EmpName,Salary,DeptCode
FROM Employee
WHERE Salary IN (SELECT MIN(Salary) FROM Employee GROUP BY DeptCode);
```

4-Tut : Sub query - 9

[Send Feedback](#)

Problem Statement:

Print out all the employees with their respective Departments even if any employee's salary is more than 4000.

Information about the table:

Table Employee:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1600	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3570	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	1250	30
9782	Monica Geller	MANAGER	7839	1981-06-09	2940	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3000	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

```
+-----+-----+
| EmpName | DeptCode |
+-----+-----+
```

Hint: use EXISTS operator.

Note: Write keywords of syntax in uppercase alphabets.

```
SELECT EmpName,DeptCode
FROM Employee
WHERE EXISTS (SELECT Salary FROM Employee WHERE Salary > 4000);
```

5-Tut : Subquery Problem- 12

[Send Feedback](#)

Problem Statement:

Print the employee details for all employees who earn more than the average salary and having an “e” in their name.

Information about the table:

Table Employee:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1600	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3570	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	1250	30
9782	Monica Geller	MANAGER	7839	1981-06-09	2940	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3000	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

```
+-----+-----+
| EmpCode | EmpName      | Salary |
+-----+-----+
```

Note: Write keywords of syntax in uppercase alphabets.

```
Select EmpCode,EmpName,Salary
From Employee WHERE Salary >( SELECT AVG(Salary) From Employee)
AND EmpName LIKE '%e%';
```

6-Tut : SQL Query - 11

[Send Feedback](#)

Problem Statement:

List down the employee details with their annual salary, given that the annual salary of the employees being listed should be greater than 30000

Information about the table:

Table **Employee**:

EmpCode	EmpName	Job	Manager	HireDate	Salary	DeptCode
9369	Ted Mosby	SOFTWARE ENGINEER	7902	1980-12-17	2800	20
9499	Robin Scherbatsky	SALESMAN	7698	1981-02-20	1600	30
9566	Lily Aldrin	MANAGER	7839	1981-04-02	3570	20
9654	Phoebe Buffay	SALESMAN	7698	1981-09-28	1250	30
9782	Monica Geller	MANAGER	7839	1981-06-09	2940	10
9788	Chandler Bing	ANALYST	7566	1982-12-09	3000	20
9839	Marshall Eriksen	PRESIDENT	7566	1981-11-17	5000	10

Output Table Structure:

```
+-----+-----+-----+-----+
| EmpCode | EmpName           | Salary | A_Sal |
+-----+-----+-----+-----+
```

Note: Write keywords of syntax in uppercase alphabets.

```
select EmpCode,EmpName,Salary,A_sal from
(select EmpCode ,EmpName ,Salary , Salary*12 as A_sal
from Employee) qone where qone.A_sal >30000;
```

L15 : Managing DataBase

1-Tut : MCQ - 1

[Send Feedback](#)

Choose the query which should be used to create a Database while also being careful of duplication.

Options

This problem has only one correct answer

CREATE DATABASE Market;
CREATE DATABASE IF NOT EXISTS Market;
CREATE DATABASE UNIQUE Market;
CREATE DATABASE IF EXISTS Market;

Correct Answer : B

Solution Description

To create a database, we always use the CREATE keyword in SQL. If we want to create a database that will be careful of duplication, we should use the IF NOT EXIST keyword. If we try to create a database that already exists and does not mention IF NOT EXISTS, then an error would be thrown.

2-Tut : MCQ - 2

[Send Feedback](#)

Which DDL command is used to permanently delete the database.

Options

This problem has only one correct answer

DELETE
TRUNCATE
DROP
REMOVE

Correct Answer : C

Solution Description

When the user has to delete a whole database or just a table DROP keyword is used to accomplish that. The DROP statement is used to destroy objects like an existing database, table, index, or view.

3-Tut : MCQ - 3

[Send Feedback](#)

What does The DROP DATABASE statement return?

Options

This problem has only one correct answer

- Total number Rows deleted
- Total number Data points deleted
- Total number of columns deleted
- Total number of tables deleted.

Correct Answer : D

Solution Description

DROP DATABASE returns the total number of tables deleted. The DROP statement is used when the user has to delete a whole database or just a table. The DROP statement is used to destroy objects like an existing database, table, index, or view.

L16-Transaction-Statement

1-Tut : MCQ - 1

[Send Feedback](#)

Which of the following is a sequence of SQL operations which are treated as a single unit of work:

Options

This problem has only one correct answer

- Database
- Transaction
- Session
- SQL workbench

Correct Answer : B

Solution Description

A transaction is a sequential group of queries, statements, or operations such as update, select, insert or delete to perform as a one single work unit that can be committed or rolled back.

2-Tut : MCQ - 2

[Send Feedback](#)

Which command performs the end of a successful transaction.

Options

This problem has only one correct answer

- COMMIT TRANSACTION
- ROLLBACK TRANSACTION
- COMMIT WORK
- All of the mentioned

Correct Answer : A

Solution Description

There is mainly four types of TCL Command:

1. BEGIN TRANSACTION: This TCL command basically starts the transaction.
2. COMMIT TRANSACTION: This TCL command makes changes done to the transaction permanent. It saves all the changes done to a transaction.
3. ROLLBACK TRANSACTION: This TCL commands uncommit or cancels all the changes done to a transaction and restores the current state to any previously saved state.
4. SAVEPOINT TRANSACTION: This TCL command saves the current state into a saving point. That savepoint can later be accessed.

3-Tut : MCQ - 3

[Send Feedback](#)

You can roll back after performing the commit in MySQL.

Options

This problem has only one correct answer

True

False

Depends on the Transaction

Correct Answer : B

Solution Description

DBMS transactions have many queries, but there are no queries that will 'undo' the committed changes done to the transaction. Unless the user has a backup of a database, the user cannot Rollback after performing a Commit on SQL.

4-Tut : MCQ - 4

[Send Feedback](#)

Suppose we have created a savepoint named Spt1, which of the following commands can be used to rollback the transactions executed after creating the savepoint :

Options

This problem has only one correct answer

RELEASE SAVEPOINT Spt1

COMMIT Spt1

ROLLBACK TO Spt1

ROLLBACK

Correct Answer : C

Solution Description

ROLLBACK transaction - This TCL command undo all the changes or restore the current state to any previously saved state.

General form:

ROLLBACK: This rollback the previously committed command to its initial state

ROLLBACK TO savepoint: This undoes the current state and restores it to the savepoint

5-Tut : MCQ - 5

[Send Feedback](#)

Which of the following is the query to apply Read Lock on table **Employees**

Options

This problem has only one correct answer

LOCK TABLE Employees READ;
LOCK TABLE Employees READ|WRITE;
LOCK TABLE Employees PRIORITY READ;
LOCK TABLE Employees READ ONLY;

Correct Answer : A

Solution Description

READ LOCK allows a user to only read the data from a table. The syntax for READ LOCK is LOCK TABLES T_name READ

6-Tut : MCQ - 6

[Send Feedback](#)

Choose the correct command to view the operations currently being performed by MySQL.

Options

This problem has only one correct answer

SHOW WAITLIST;
SHOW PROCESSLIST;
SHOW OPERATIONS;
None

Correct Answer : B

Solution Description

The 'SHOW PROCESSLIST' command in MySQL displays all the running threads or processes information associated with the current user account. This command is extremely useful when the MySQL server returns too many connection error messages.

7-Tut : MCQ - 7

[Send Feedback](#)

Which of the following written queries will produce error when working in the same session.

Table: cricket(Id integer, Name varchar, Position varchar, Status integer)

Options

This problem has only one correct answer

LOCK TABLE cricket READ; INSERT INTO cricket('score') VALUES('200');
LOCK TABLE cricket WRITE; INSERT INTO cricket('score') VALUES('200');
LOCK TABLE cricket READ; SELECT * FROM cricket;
None.

Correct Answer : A

Solution Description

READ LOCK: This lock allows a user to only read the data from a table.

WRITE LOCK: This lock allows a user to do both reading and writing on a table.

In the query, `LOCK TABLE cricket READ; INSERT INTO cricket('score') VALUES('200')`: we applied READ LOCK on the cricket table and in the next query the `INSERT` operation is done which is basically a write operation. This will result in an error as when we READ LOCK, we can only do READ operation

In other options, B, C, D, ee have done READ operation after READ LOCK, and WRITE operation after WRITE LOCK, hence they would not have error.

L17 : Import Export

1-Tut : MCQ - 1

[Send Feedback](#)

Out of the following, what data file can mysql workbench import data from?

- 1. csv
- 2. json
- 3. ORC
- 4. Protocol
- 5. Parquet

Options

This problem has only one correct answer

- 1,3,5
- only 2,4
- 1,2,3
- 1,2

Correct Answer : D

Solution Description

MySQL files can import Data from CSV or JSON files.

2-Tut : MCQ - 2

[Send Feedback](#)

Choose the correct query for importing data, from the following.

Options

This problem has only one correct answer

- A. LOAD DATA INFILE 'c:/tmp/football.csv' INTO TABLE Zaltan FIELDS TERMINATED BY ',' ENCLOSED BY "" LINES TERMINATED BY '\n' IGNORE 1 ROWS;
- B. LOAD DATA INFILE 'c:/tmp/football.csv' INTO TABLE Zaltan
- C. LOAD DATA INFILE 'c:/tmp/football.csv' INTO Zaltan FIELDS ENCLOSED BY "" LINES TERMINATED BY '\n' IGNORE 1 ROWS;
- D. LOAD INFILE "c:/tmp/football.csv" INTO DATABASE Zaltan AS TABLE his_goals FIELDS TERMINATED BY ',' ENCLOSED BY "" LINES TERMINATED BY '\n' IGNORE 1 ROWS;

Correct Answer : A

Solution Description

When importing from a local computer, the client program reads the file on the client and sends it to the MySQL server. The file will be uploaded into the database server operating system. Query: - LOAD DATA LOCAL INFILE 'c:/tmp/xyz.csv' INTO TABLE T_name FIELDS TERMINATED BY ',' ENCLOSED BY "" LINES TERMINATED BY '\n' IGNORE 1 ROWS;

In the above Query, FIELDS TERMINATED BY, ENCLOSED BY, LINES TERMINATED BY, IGNORE ROWS is a part of the File and Line handling process. FIELDS TERMINATED BY is used when the text file we are importing is having values separated by commas. “, “.

ENCLOSED BY is used when we want to specify that we want to load the files under these symbols.

LINES TERMINATED BY is to terminate the specific line while importing the data.

IGNORE ROWS is used to ignore the specific row from a CSV file.

3-Tut : MCQ - 3

[Send Feedback](#)

Before exporting data, we must ensure that:

Options

This problem has only one correct answer

write access should be provided to the target folder that contains the target DATA file.

The target DATA file must not exist.

Both a and b

None.

Correct Answer : C

Solution Description

To export our data in CSV file we must ensure that

1. The write access should be provided to the folder containing the target data file.
2. The Target data file must not already exist.

Also, The query should be properly written and the target filename should be unique which we are writing in the query.

4-Tut : MCQ - 4

[Send Feedback](#)

Choose the correct query for Exporting data, from the following.

Options

This problem has only one correct answer

- A. SELECT * FROM UFC WHERE id = 1 INTO OUTFILE 'C:/tmp/conner_vs_khabib2.csv' ;
- B. SELECT * FROM UFC WHERE id = 1 INTO OUTFILE 'C:/tmp/conner_vs_khabib2.csv' FIELDS ENCLOSED BY "" TERMINATED BY ';' ESCAPED BY '\"' LINES TERMINATED BY '\r\n';
- C. SELECT * FROM UFC WHERE id = 1 INTO OUTFILE 'C:/tmp/conner_vs_khabib2.csv' FIELDS TERMINATED BY ',' ENCLOSED BY '\"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;
- D. SELECT * FROM UFC WHERE id = 1 LOAD DATA OUTFILE 'C:/tmp/conner_vs_khabib2.csv' FIELDS TERMINATED BY ',' ENCLOSED BY '\"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

Correct Answer : B

Solution Description

To export our data into a CSV file.

Query:- SELECT column_name(s) FROM T_name WHERE id = 1 INTO OUTFILE 'C:/tmp/xyz_exported.csv' FIELDS
ENCLOSED BY "" TERMINATED BY ';' ESCAPED BY '\"' LINES TERMINATED BY '\r\n';

In the above Query, FIELDS ENCLOSED BY, ESCAPES BY, LINES TERMINATED BY, TERMINATED BY is a part of the File and Line handling process

1. FIELDS ENCLOSED BY is used when we have to export the data from the specific field
2. TERMINATED BY is used when we have to terminate the data after export.
3. LINES TERMINATED BY is to terminate the specific line after exporting the data.

L18 : Normalization

1-Tut : MCQ - 1

[Send Feedback](#)

What is trivial functional dependency?

Options :

This problem has only one correct answer

If $A \rightarrow B$ holds where B is not a subset of A.

If $A \rightarrow B$ holds where B is a subset of A.

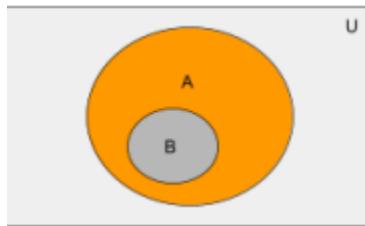
If $A \rightarrow B$ holds where B is not an intersection of A.

If $A \rightarrow B$ holds where B is an intersection of A.

Correct Answer : B

Solution Description

Let there be a set of attributes A which determines a set of attributes B (i.e. $A \rightarrow B$). Now if the dependent (i.e. B) is a subset of the determinant (i.e. A). i.e. If $A \rightarrow B$ and $B \subseteq A$. Hence, we call this a trivial functional dependency. Here is a Venn diagram below for this trivial dependency:



2-Tut : MCQ - 2

[Send Feedback](#)

The rule which states that addition of same attributes to the right side and left side will result in other valid dependency is classified as

Options

This problem has only one correct answer

reflexive rule

augmentation rule

transitivity Rule

Sigma Rule

Correct Answer : B

Solution Description

The augmentation rule states that the addition of the same attributes to the right side and the left side will result in another valid dependency. If B can be determined from A, then adding an attribute to this functional dependency won't change anything. i.e. If $A \rightarrow B$ holds, then $AM \rightarrow BM$ holds too. 'M' being a set of attributes.

3-Tut : MCQ - 3

[Send Feedback](#)

A relation R has the following tuples:

A	B	C
1	2	3
4	2	3
5	3	3
2	4	4

Which of the following dependencies do not hold over the relation R?

Options

This problem has only one correct answer

[A \$\rightarrow\$ B](#)

[AB \$\rightarrow\$ C](#)

[C \$\rightarrow\$ B](#)

[B \$\rightarrow\$ C](#)

[Correct Answer : C](#)

Solution Description

Explanation: Here , if we observe carefully for $C \rightarrow B$, we would notice that for attribute 'C', value 3 is appearing multiples times and it is pointing to different values of attribute 'B'. So, if we consider value 3 of attribute 'C' , then it can point to value 2 as well as value 3 of attribute 'B'. Hence, 'C' cannot determine 'B' uniquely.
Hence , $C \rightarrow B$ does NOT hold.

4-Tut : MCQ - 4

[Send Feedback](#)

R={A, B, C, D, E} is the given schema, the FD's for the same are as follows:

$A \rightarrow B$

$A \rightarrow C$

$CD \rightarrow E$

$B \rightarrow D$

$E \rightarrow A$

Identify the illegal relation from the following.

Options

This problem has only one correct answer

$BC \rightarrow CD$

$AC \rightarrow BC$

$EC \rightarrow AC$

$BD \rightarrow CD$

Correct Answer : D

Solution Description

Using Armstrong's axiom of Augmentation, which states that, If Y can be determined from X, then adding an attribute to this functional dependency won't change anything.

i.e. If $X \rightarrow Y$ holds, then $XM \rightarrow YM$ holds too. 'M' being a set of attributes.

Therefore, here all the relation stated holds but not $BD \rightarrow CD$. As there is no FD stating $B \rightarrow D$.

5-Tut : MCQ - 5

[Send Feedback](#)

$R = \{A, B, C, D, E\}$ is the given schema, the FD's for the same are as follows:

$A \rightarrow B$

$A \rightarrow C$

$CD \rightarrow E$

$B \rightarrow D$

$E \rightarrow A$

Is the relation $CD \rightarrow AC$ legal one?

Options

This problem has only one correct answer

Yes

No

Cannot say

Correct Answer : A

Solution Description

We know $CD \rightarrow E$ and $E \rightarrow A$. Therefore, $CD \rightarrow A$ (using transitive rule)

Also it is evident that $C \subseteq CD$ therefore, $CD \rightarrow C$.

Hence, Combining $CD \rightarrow A$ and $CD \rightarrow C$, we can state, $CD \rightarrow AC$.

6-Tut : MCQ - 6

[Send Feedback](#)

A functional dependency of the form $A \rightarrow B$ is trivial if:

Options

This problem has only one correct answer

$A \subseteq A$

$A \subseteq B$

$B \subseteq A$

$A \subseteq B$ and $B \subseteq A$

Correct Answer : C

Solution Description

Let there be a set of attributes A which determines a set of attributes B (i.e. $A \rightarrow B$). The functional dependency will be trivial if the dependent (i.e. B) is a subset of the determinant (i.e. A). i.e. If $A \rightarrow B$ and $B \subseteq A$.

7-Tut : MCQ - 7

[Send Feedback](#)

Which of the following anomalies can a relation have if it contains data redundancies.

Options

This problem has only one correct answer

Insertion

Deletion

Update

All of them

Correct Answer : D

Solution Description

Data Redundancy means having the same copies of data in a database. This mostly happens in the database when the data is not normalized. Anomalies that can be caused due to Data Redundancy are mostly on the WRITE anomalies that are insertion anomaly, deletion anomaly, update anomaly, etc.

8-Tut : MCQ - 8

[Send Feedback](#)

Consider the following table:

Employee_ID	Name	Department	Clubs
1	Navdeep	Content	Fitness Freaks
2	Shubhangi	Marketing	Marketing Club
3	Shubhangi	Marketing	Management Club
4	Gaurav	CIS	Technology Org.
5	Gaurav	CIS	Fitness Freaks

Answer the following question with the help of above data. Keep in mind that an employee may be added to various clubs, but only one department.

While creating the database, the column “Clubs” was defined so that null values are not allowed. A new intern is hired by the company. No departments or clubs are assigned to him beforehand. What kind of anomaly might occur due to this restriction?

Options

This problem has only one correct answer

- Updation Anomaly
- Deletion Anomaly
- Insertion Anomaly
- None of the above

Correct Answer : C

Solution Description

A new employee without a club affiliation cannot be added into the database.

9-Tut : MCQ - 9

[Send Feedback](#)

Consider the following table:

Employee_ID	Name	Department	Clubs
1	Navdeep	Content	Fitness Freaks
2	Shubhangi	Marketing	Marketing Club
3	Shubhangi	Marketing	Management Club
4	Gaurav	CIS	Technology Org.
5	Gaurav	CIS	Fitness Freaks

Answer the following question with the help of above data. Keep in mind that an employee may be added to various clubs, but only one department.

If the club Fitness Freak is disbanded and the data is not handled properly, what anomaly might occur?

Options

This problem has only one correct answer

- Updation Anomaly
- Deletion Anomaly
- Insertion Anomaly
- None of the above

Correct Answer : B

Solution Description

Deletion of instances of the club Fitness Freak will lead to the complete loss of employee information having Employee_ID as 1.

10-Tut : MCQ - 10

[Send Feedback](#)

Consider the following table:

Employee_ID	Name	Department	Clubs
1	Navdeep	Content	Fitness Freaks
2	Shubhangi	Marketing	Marketing Club
3	Shubhangi	Marketing	Management Club
4	Gaurav	CIS	Technology Org.
5	Gaurav	CIS	Fitness Freaks

Answer the following question with the help of above data. Keep in mind that an employee may be added to various clubs, but only one department.

Gaurav has recently decided to switch to the Tech Team and has put in an official request for department change. What anomaly might occur in the above database if the database manager doesn't realize the one to many relation between employee and clubs?

Options

[This problem has only one correct answer](#)

[Updation Anomaly](#)

[Deletion Anomaly](#)

[Insertion Anomaly](#)

[None of the above](#)

[Correct Answer : A](#)

Solution Description

Updating the department may lead to the data inconsistency and partial update as multiple entries are present for Gaurav . All rows should be updated with a new department for Gaurav.

11-Tut : MCQ - 11

[Send Feedback](#)

Katherine was the assistant to the DBMS professor at her college. She was given a simple task of converting composite attributes into individual attributes for a table. What normalization is she performing?

Options

[This problem has only one correct answer](#)

- [First](#)
- [Second](#)
- [Third](#)
- [None of the above](#)

Correct Answer : A

Solution Description

First Normal Form (1NF) is the first step of the normalization process. For a relation to justifying 1NF, it needs to satisfy 4 basic conditions:

1. Each attribute should contain atomic values. (i.e. no multivalued attributes)
2. Each Value stored in an attribute should be of the same type.
3. All the attributes in a table should have unique names.
4. The order of the data stored in the table doesn't matter.

In the given question Katherine was given the task of converting composite attributes to individual attributes for a table. So it is in the First normal form.

12-Tut : MCQ - 12

[Send Feedback](#)

Which of the following is not required for a table to be in 1NF?

Options

This problem has only one correct answer

- Attributes to have unique names
- Free from Transitive dependencies
- Single valued attribute
- Each value in an attribute is of a similar type.

Correct Answer : B

Solution Description

For a relation to justifying 1NF, it needs to satisfy 4 basic conditions:

1. Each attribute should contain atomic values.
2. Each Value stored in an attribute should be of the same type.
3. All the attributes in a table should have unique names.
4. The order of the data stored in the table doesn't matter.

13-Tut : MCQ - 13 (First Normal Form)

[Send Feedback](#)

We are given a table products:

cust_Id	products_ordered	price
20	Mobile cover	499
27	Bag, Earphones	1399
33	Laptop	35000
35	camera	5490

Identify the Normal form it doesn't satisfy and make changes to it to be accepted.

Answer

Type here : 1 NF

Solution Description

It doesn't satisfy 1 NF, as product_ordered attribute has multiple values in a single record.
A way to fix this is, Split the table into two tables one containing the cust_id with the price paid and other one containing the cust_id and the products_ordered.

Here, splitting the table is a better option as the customer buying the products have certain number of products in the cart and we only know the final price. We are not aware of the price of individual product_ordered like Bag or earphones, so we would not be able to insert them as separate rows (one for Bag and another for Earphone) inside the Product table.

Table Price:

cust_Id	price
20	499
27	1399
33	35000
35	5490

Table Orders:

cust_Id	price
20	Mobile cover
27	Bag
27	Earphone
33	Laptop
35	Camera

14-Tut : MCQ - 14

[Send Feedback](#)

For a relation to be in 2NF it has to:

Options

This problem has only one correct answer

- a. Be in 1 NF
- b. Shouldn't have transitive dependencies
- c. Shouldn't have partial dependencies
- Both c and a
- Both a and b

Correct Answer : D

Solution Description

For a relation to justifying 2NF, it needs to satisfy two important rules:

1. It should be in the First Normal Form.
2. It should not have any partial dependencies i.e. when a nonprime attribute is derivable from only a part of a candidate key.

15-Tut : MCQ - 15 (Second Normal Form)

[Send Feedback](#)

For a given table employee, assume an employee can work for multiple teams.

Emp_id	Team	Emp_age
34324	Design	22
34324	Content	22
54355	Content	21
77445	Technical	25
77445	Design	25

Identify the prime and non-prime attributes.

Answer

[Type here :](#)

Solution Description

Non-prime: Emp_age (it is dependent on Emp_id)

Prime attributes: {Emp_id, Team}

16-Tut : MCQ - 16 (Second Normal Form)

[Send Feedback](#)

For a given table employee, assume an employee can work for multiple teams.What normal form does this table violates?

Emp_id	Team	Emp_age
34324	Design	22
34324	Content	22
54355	Content	21
77445	Technical	25
77445	Design	25

Answer

Type here

Solution Description

Here $\{\text{Emp_id}, \text{Team}\}$ is the key for the table. We can see that Emp_age is dependent on Emp_id and Emp_id is a subset of the Prime attributes $\{\text{Emp_id}, \text{Team}\}$. Hence, it is a case of Partial dependency. Therefore, it is a violation of 2NF.

17-Tut : MCQ - 17 (Second Normal Form)

[Send Feedback](#)

For a given table employee, assume an employee can work for multiple teams.

Emp_id	Team	Emp_age
34324	Design	22
34324	Content	22
54355	Content	21
77445	Technical	25
77445	Design	25

Fix the violation.

Answer

Type here

Solution Description

To fix this we should split the above table into two:

Table Emp_detail:

Emp_id		Emp_age
34324		22
54355		21
77445		25

Table Team_data:

Emp_id		Team
34324		Design
34324		Content
54355		Content
77445		Technical
77445		Design

18-Tut : MCQ - 18

[Send Feedback](#)

Which of the following dependencies leads to violation of 3NF.

Options

This problem has only one correct answer

Transitive Dependency

Partial Dependency

Both a and b

None of them

Correct Answer : C

Solution Description

For a table to be in third normal form, first it should be in 2NF and second no transitive dependencies.

19-Tut : MCQ - 19 (Third Normal Form)

[Send Feedback](#)

Given a table subjects as shown below:

Sub	Department	Instructor
S1	Dep1	Ins1
S3	Dep1	Ins2
S2	Dep1	Ins1
S4	Dep2	Ins3
S5	Dep2	Ins4

Try and identify the normal form it violates. Try and fix it.

Answer

[Type here](#)

Solution Description

Here, on observing we can say,

Sub--> Instructor (A subject is taught by instructor)

And Instructor--> Department (an instructor belongs to certain department)

So we can say Sub --> Department (using transitive rule.)

Hence, transitive dependency from the primary key.

Hence Violating 3NF.

Let's fix this by splitting the above table into two as below:

Table Ins_dep:

Instructor		Department
------------	--	------------

Ins1		Dep1
Ins2		Dep1
Ins3		Dep2
Ins4		Dep3

Table Sub_Ins:

Sub		Instructor
-----	--	------------

S1		Ins1
S2		Ins1
S3		Ins2
S4		Ins3
S5		Ins4

20-Tut : MCQ - 20

[Send Feedback](#)

Which of the following is true about BCNF:

Options

This problem has only one correct answer

- lossless join and dependency preserving
- lossless join but not dependency preserving
- not lossless join but dependency preserving
- none of these

Correct Answer : B

Solution Description

Lossless Join:

A decomposition of the Relation is said to be lossless when it is decomposed into two new relation whose FD satisfy following condition:

1. Union of attributes of two relation is equal to that of the original relation.
2. Intersection of Attributes of two decomposed relations must not be NULL.
3. Common attribute between the relations must be a key for at least one of them.

Dependency Preserving:

On decomposing a relation into two, All dependencies of the original relation either must be a part of both the decomposed relation or must be derivable from combination of dependencies of both the relation.

21-Tut :

L19 : Transactions

1-Tut : MCQ - 1

[Send Feedback](#)

When dealing with transactions, any DBMS should be capable of ensuring:

Options

This problem has only one correct answer

- Parts of a transaction are not lost due to a failure.
- Transactions are free from interference from other users.
- Transactions do not make the database inconsistent.
- All of the above.

Correct Answer : D

Solution Description

When dealing with transactions, any DBMS should be capable of ensuring that:

1. Transactions are free from interference from other users.
2. Parts of transactions are not lost due to program failures.
3. Transactions don't make the database inconsistent.
4. Incomplete transactions never occur in the database.

2-Tut : MCQ - 2

[Send Feedback](#)

Which of the following is a part of ACID properties of transactions?

Options

This problem has only one correct answer

- a. Duration
- b. Atomicity
- c. Isolation
- d. Only a,b
- e. Only b,c

Correct Answer : e

Solution Description

ACID stands for:

1. **Atomicity** : It is also known as the "All or nothing rule". It ensures that either the transaction occurs completely or it will not occur at all.
2. **Consistency** : It ensures that data remains consistent before and after the transaction.

3. **Isolation** : It ensures that parallel transactions remain consistent when they are converted into serializable form.

4. **Durability** : It ensures that data is not lost during the transactions.

3-Tut : MCQ - 3

[Send Feedback](#)

If the system crashes just after the transaction is executed, we don't lose the changes made to the database due to:

Options

This problem has only one correct answer

- A. Transactions endurance
- B. Transactions are atomic, so they are saved
- C. Durability property
- D. Isolation property, as the transaction is isolated it doesn't get affected by anything happening in the surroundings.

Correct Answer : C

Solution Description

Durability property ensures all the changes or updates to the database have been recorded and have been stored and will be never lost even if the system crashes.

On the other hand, Atomic property tells that a transaction will happen only when it will be performed entirely or will not be executed at all. Isolation ensures that the transactions are executing independently, i.e. when one transaction is being done, it won't be interrupted by the other one. However, multiple transactions can happen simultaneously, given that each transaction is unaware of the other concurrently executing transactions.

4-Tut : MCQ - 4

[Send Feedback](#)

At which state is transaction considered permanent in the database?

Options

This problem has only one correct answer

- Save
- Committed
- Rolled
- Loaded

Correct Answer : B

Solution Description

When the updates are made permanent on the database, then the transaction is said to be in the committed state. Whatever changes we make during the transaction, the database saves that data in the hard disk and these changes are visible to the user.

Note: Rollback can't be done from here. At this state, a new consistent state is achieved by the database.

5-Tut : MCQ - 5

[Send Feedback](#)

In case of any shut down during transaction before commit, which of the following statements is done automatically?

Options

This problem has only one correct answer

Flashback

Rollback

Commit

View

Correct Answer : B

Solution Description

In case of any shutdown during transaction before commit, the transaction shifts from a partially committed state to a failed state. After a transaction reaches the failed state, Rollback operations occur and it reaches the aborted state. Rollback operation '**UNDO**' the changes made during the transaction.

6-Tut : MCQ - 6

[Send Feedback](#)

If the checks by the database recovery system fails, then the transaction is in which state?

Options

This problem has only one correct answer

Active

Partially committed

Committed

Failed

Correct Answer : D

Solution Description

1. Active State:- The very first state of the life cycle of the transaction, all the read and write operations are being performed. If they execute without any error the transaction comes to a 'partially committed' state, although if any error then it leads to a 'failed' state.

2. Partially Committed State:- After the transaction is executed the changes are saved in the buffer in Main Memory. If the changes made are permanent on the database then the state will transfer to the 'committed' state and if there is any kind of failure, The transaction will go to the 'failed' state.

3. Committed State:- When the updates are made permanent on the database. Then the transaction is said to be in the committed state. Rollback can't be done from committed states. At this state, a new consistent state is achieved by the database.

4. Failed State:- When a transaction is being executed and some failure occurs. Due to these failures, it becomes impossible to continue the execution of a transaction. This results in the entrance of transactions in the failed state. The transaction can reach this state from an Active or Partially committed state.

7-Tut : MCQ - 7

[Send Feedback](#)

The state in which the transaction is, while it's still executing is/are:

Options

This problem has only one correct answer

- a. Start
- b. Active
- c. Failed
- d. Partially Committed
- e. Only a,d
- f. Only b,d
- g. Only b,c,d

Correct Answer : f

Solution Description

When the transaction is executing, it can only be in two states

1. **Active State** :- The very first state of the life cycle of the transaction, all the read and write operations are being performed and if they execute without any error the transaction comes to a 'partially committed' state, although if any error then it leads to 'failed' state.

Note: All the changes made by the transaction now are stored in the buffer in the main memory.

2. **Partially Committed State**:- After the transaction is executed the changes are saved in the buffer in Main Memory. If the changes made are permanent on the database then the state will transfer to the 'committed' state and if there is any kind of failure, The transaction will go to the 'failed' state

8-Tut : MCQ - 8

[Send Feedback](#)

When a transaction doesn't complete its execution successfully. We call it:

Options

This problem has only one correct answer

- Terminated
- Closed
- Failed
- Aborted

Correct Answer : D

Solution Description

Aborted State: When the transaction reaches the failed state, all the changes made in the buffer are reversed. After that the transaction rollback completely. The transaction reaches an aborted state after that. After reaching the aborted state, the failed transaction get removed from the database

L20 : Indexing

1-Tut : MCQ - 1

[Send Feedback](#)

An index helps to speed up which operation?

Options

This problem has only one correct answer

SELECT queries

WHERE clauses

Both A and B

UPDATE Query

Correct Answer : C

Solution Description

Indexing is a method that helps us to locate a record or data present in the memory faster. Indexing boosts the efficiency by minimizing the number of disk accesses required when we process a query. This will help to speed up operations with READ operations like- SELECT queries, WHERE clause etc.

2-Tut : MCQ - 2

[Send Feedback](#)

The index consists of

Options

This problem has only one correct answer

a. list of keys

b. pointers to the key in the table

c. both (a) and (b)

d. none

Correct Answer : C

Solution Description

The index is a data structure that we use to perform indexing. Indexes contain a few database columns:

1. The first column consists of a search key, which contains the copy of the primary key of the table so that the data access time could be reduced which means data can be accessed quickly. The order of the key may or may not be sorted.

2. The second column is the data reference. It contains pointers holding the address of the disk block where the value corresponding to the key is stored.

3-Tut : MCQ - 3

[Send Feedback](#)

Which of the following is true.

1. Sparse indices can be used only if the relation is stored in sorted order of the search key.

2. It is generally faster to locate a record if we have a dense index rather than a sparse index.

Options

This problem has only one correct answer

Only 1

Only 2

None

Both 1 and 2

Correct Answer : D

Solution Description

Indexing is a method that helps us to locate the data present in the memory efficiently. There are two types of primary indexing:

1. Sparse indexing
2. Dense indexing

In the above question, the main focus is on the sparse indexing technique, a variety of index columns stores an equivalent block address. When data is retrieved, the block address is going to be fetched. That is why sparse indices are smaller in size in comparison to dense Indices. That is why it is generally faster to locate a record if we have a dense index rather than a sparse index. Sparse indices can be used only if the relation is stored in the sorted order of the search key.

4-Tut : MCQ - 4

[Send Feedback](#)

Primary index is further divided into dense index and sparse index. Which of the following is true about both.

Options

This problem has only one correct answer

Dense index is not space friendly.

Sparse index is not space friendly.

Sparse index is faster than Dense index.

a and c

Correct Answer : A

Solution Description

The difference between dense index and sparse index is shown below:

Dense Index	Sparse Index
Space taken for the index table is large.	Space taken for the index table is smaller.
Time taken to locate the record is less in comparison	Time taken to locate the record is more.
The records in the data file are in specific order and need not be in any kind of cluster or chunk.	The records in the data file are in specific order but the data records are in a cluster or chunk. (i.e. pointers from the index table point to certain data records, and all records between those pointers are considered in one cluster or chunk.)

5-Tut : MCQ - 5 (Indexing Numerical)

[Send Feedback](#)

A block can hold either 6 records or 12 key pointers. A database contains 48 records, then how many blocks is required to hold the data file and the dense index?

Answer

[Type here](#)

Solution Description

Ans: 12

Explanation: We know, the database contains 48 records and a block can hold 6 records or hold 12 key pointers. Therefore, how many blocks can hold 48 records?

$48/6 = 8$

Similarly, how many blocks for 12 key pointers?

$48/12 = 4$

Hence, total blocks = $8+4=12$.

6-Tut : MCQ - 6 (Indexing Numerical)

[Send Feedback](#)

Suppose a block can hold either 5 records or 10 (key, pointer) pairs. If there are x number of records and dense indexing is used then how many blocks do we need to hold a data file and dense index?

Answer

[Type here](#)

Solution Description

Ans : $3*x/10$

Explanation: Total no. of records given = x.

A block can hold 5 records.

We know in dense indexing the number of rows in the index table is the same as those in the main table.

So, How many blocks to hold x records?

$x/5$

Similarly, a block can hold 10 key pointers. So,

How many blocks to hold x key pointers?

$x/10$

Therefore, Total blocks = $x/5 + x/10 = 3*x/10$

7-Tut : MCQ - 7

[Send Feedback](#)

Which of the following indexes is defined on an ordered data file and created on a non-key field?

Options

[This problem has only one correct answer](#)

[Primary index](#)

[Secondary index](#)

[B-trees](#)

[Clustering index](#)

Correct Answer : D

Solution Description

Clustering Index is the index that is created and ordered on the basis of the non-primary key attributes of the table. These attributes are not unique for each record. In Clustering index, to fetch a record we group two or more attributes together to get the unique values and create an index out of them. Clustering index is an ordered data file which is created on a non-key field.

8-Tut : MCQ - 8

[Send Feedback](#)

Which of the following will be considered as multi level indexing?

Options

This problem has only one correct answer

Clustering indexing

Secondary indexing

Primary Indexing

All of them

Correct Answer : B

Solution Description

Secondary index is taken into consideration when the size of datafile increases i.e. when the size of the table increases, sparse indexing starts to slow down. To overcome this we introduce another level of indexing that is known as secondary indexing. In this, we select a huge chunk of columns initially and put it up at the first level of indexing which is known as primary level indexing. The data of primary level indexing is stored in primary memory. After this, each chunk is divided into smaller ranges. This is known as the second level of indexing, this is stored in the secondary memory along with the actual data file. Secondary indexing is also known as multilevel indexing.

9-Tut : MCQ - 9

[Send Feedback](#)

Which of the following operations does indexing slows down.

1. DELETE

2. INSERT

3. SELECT

4. READ

Options

This problem has only one correct answer

Only 1,3

Only 2,4

Only 1,2

Only 1,2,4

Correct Answer : C

Solution Description

Indexing results in the reduction of the speed of execution of write operations in the memory. Major Write operations are INSERT, UPDATE and DELETE operations.

10-Tut : MCQ - 10

[Send Feedback](#)

When the records of the main table are sorted on the basis of search key which is also the primary key, and so is the order of the index table, it's called :

Options

This problem has only one correct answer

Primary Indexing

Secondary Indexing with key

Clustered Indexing

Secondary Indexing with non-key

Correct Answer : A

Solution Description

When the indexing is done on the basis of the primary key of the data file it is known as the primary indexing. During the primary indexing, the data file is already ordered to support the primary key. Primary Index is an ordered file whose records are of fixed length with two fields. The primary field of the index replicates the primary key of the information entered in an ordered manner, and therefore the second field of the ordered file contains a pointer that points to the data block where a record containing the keys is available.

11-Tut :

L21 : NoSQL

1-Tut : MCQ - 1

[Send Feedback](#)

NoSQL databases are used usually for handling large volumes of _____ data.

Options

This problem has only one correct answer

- Structured
- Semi-structured
- Unstructured
- All of the above

Correct Answer : C

Solution Description

NoSQL is popularly misunderstood as No SQL but it actually means Not only SQL database. NoSQL is also claimed as the next-generation database. The Relational databases we use are not designed to manage all kinds of data efficiently, like large volumes of unstructured data whereas NoSQL databases are designed to manage these data efficiently.

2-Tut : MCQ - 2

[Send Feedback](#)

What is true for NoSQL databases ?

Options

This problem has only one correct answer

- NoSQL cannot store structured data
- NoSQL is a database that is built on ways and means to store data in format other than tables.
- NoSQL uses tables to store data and is an enhanced form of RDBMS.
- None

Correct Answer : B

Solution Description

NoSQL is a schema-free database. The data structure is used for storing is different from what we learned in relational databases. Data structures used here are more flexible than the relation used in relational databases. Also, the data is not stored in a table format. In NoSQL, data is stored in document databases, key-value stores, wide-column databases, and graph databases.

3-Tut : MCQ - 3

[Send Feedback](#)

NoSQL stands for:

Options

This problem has only one correct answer

[Advance SQL](#)
[Not SQL](#)
[Not Only SQL](#)
[New Optimized SQL](#)

Correct Answer : C

Solution Description

NoSQL, popularly misunderstood as No-SQL but it actually means Not Only SQL database.

4-Tut : MCQ - 4

[Send Feedback](#)

NoSQL databases are often referred to as:

Options

[This problem has only one correct answer](#)

[Object-oriented databases](#)
[Network databases](#)
[Relational databases](#)
[Distributed databases](#)

[The solution to this problem has been viewed](#)

Solution Description : D

NoSQL Databases are referred to as distributed databases. It's a mechanism for storing and retrieving data and is also claimed as the next-generation database. They are used in real-time web applications and big data and their usage is peaking over time. NoSQL databases go against the conventional attitude of storing information at a single location, instead, it distributes and stores information over a set of multiple servers.

5-Tut : MCQ - 5

[Send Feedback](#)

Most NoSQL databases support automatic _____ meaning that you get high availability and disaster recovery.

Options

[This problem has only one correct answer](#)

[processing](#)
[scalability](#)
[replication](#)
[all of the mentioned](#)

Correct Answer : C

Solution Description

NoSQL databases are highly available due to their auto replication feature i.e. whenever any kind of failure happens data replicates itself to the preceding consistent state. This helps in high availability and data recovery.

6-Tut : MCQ - 6

[Send Feedback](#)

What do we call a phenomenon when we add more computational power to our existing machine?

Options

This problem has only one correct answer

- Sharding
- Scale up
- Horizontal Scaling
- None of the above

Correct Answer : B

Solution Description

Explanation: Vertical scaling means that you scale by adding more power (CPU, RAM) to an existing machine. It is also known as Scaling up.

7-Tut : MCQ - 7

[Send Feedback](#)

What are the advantages of NoSQL?

Options

This problem has only one correct answer

- It supports semi-structured data and volatile data.
- Read/Write throughput is very high.
- Flexible Schema
- Can scale up to great extent
- All of the above
- None

Correct Answer : All of the above

Solution Description

Advantages of No SQL are

1. **Horizontal Scaling:** Scaling out means distributing the database throughout multiple computers when the load increases. Therefore, it can handle more traffic simply by adding more servers to the database. **It can scale up to great extent.**
2. **High Availability:** NoSQL databases are highly available due to their auto replication feature i.e. whenever any kind of failure happens data replicates itself to the preceding consistent state. **It is available for all types of data including semi-structured and volatile data.**
3. **Less management:** NoSQL databases require minimum to zero management, they are equipped to auto-repair data distribution and due to it having flexible data models that result in reducing administration and performance difficulties. **This results in very high throughput in read/write operations.**

4.Flexible Schema: Relational databases are used to have a defined schema, which is quite an issue because in case you need to make any modification or addition to the database we need to change the schema as well every time.

8-Tut : MCQ - 8

[Send Feedback](#)

What does RDBMS ensures but NoSQL doesn't ?

Options

This problem has only one correct answer

ACID properties

No Redundancy

Both

None

Correct Answer : C

Solution Description

When compared to SQL or relational databases, NoSQL database is designed for storing data of many types but it lacks functionalities like it doesn't support transaction properties like ACID, etc.

Data Redundancy means having the same copies of data in a database. It is not accomplished in NoSQL but it is done in RDBMS.

9-Tut : MCQ - 9

[Send Feedback](#)

Which of the following is usually not a feature in NoSQL?

Options

This problem has only one correct answer

Easy scaling

Creating fixed schema

High availability

None

Correct Answer : B

Solution Description

Relational databases are used to have a defined schema, which is quite an issue because in case you need to make any modification or addition to the database we need to change the schema as well every time. To overcome this NoSQL creates a flexible schema.

10-Tut : MCQ - 10

[Send Feedback](#)

What are the disadvantages of NoSQL?

Options

This problem has only one correct answer

- a. In order to support ACID developers will have to implement their own code, making their systems more complex
- b. If the data requirements are not clear, we can use a flexible schema.
- c. NoSQL databases don't have the reliability functions which Relational Databases have.
- d. a,b
- e. a,c
- f. All of the above
- g. None

Correct Answer : e

Solution Description

The disadvantages of NoSQL:

- 1. When compared to SQL or relational databases, a NoSQL database is designed for storing data of many types but it lacks functionality like it doesn't support transaction properties like ACID.
- 2. The process of managing big data on NoSQL is quite complex as compared to RDBMS.
- 3. It doesn't support data entry with constraints like RDBMS
- 4. Other concerns for NoSQL are standardization, Interfaces and Interoperability and also less community support.
- 5. It is also not compatible with SQL, although few NoSQL databases do use SQL but many don't.

11-Tut : MCQ - 11

[Send Feedback](#)

Redis is a database type based on:

Options

This problem has only one correct answer

SQL

Key-value NoSQL

Relational data model

JSON Database

Correct Answer : B

Solution Description

A key-value pair consists of a value that is basically any piece of data or information is saved with a key to identify its location at the time of operation. Database which stores data in the form of key-value pair is known as key-value No-SQL database. Redis is a popular key-value NoSQL database. The other examples of key-value databases are Amazon AWS, DynamoDB, Oracle NoSQL, Aerospike.

12-Tut : MCQ - 12

[Send Feedback](#)

Key-value NoSQL, is designed for managing:

Options

This problem has only one correct answer

Associative arrays

Unstructured data

Json data files

All of them

Correct Answer : D

Solution Description

Explanation: In Key-Value database, we can store any type of data in the value.

13-Tut : MCQ - 13

[Send Feedback](#)

Key Value database should not be used, if there are:

Options

This problem has only one correct answer

Heavy updates on the data

Small data chunks of different format to be stored

Heavy reads on the data

None

Correct Answer : A

Solution Description

When there are heavy write operations (insert, update, delete, etc) on the database key-value pair database should not be used because of the reason that query is performed on one key at a time. It takes a lot of time to do heavy write operations on the database. It's difficult to find the key: value pair we want to update because we cannot search using the value.

14-Tut : MCQ - 14

[Send Feedback](#)

In what database, while recording the data, the timestamp of entering that data is also recorded.

Options

This problem has only one correct answer

Relational Database with a counter

Key-value database

Column based NoSQL database

All of them

Correct Answer : C

Solution Description

Column based No-SQL database records the timestamp of data, while recording the database.

15-Tut : MCQ - 15

[Send Feedback](#)

What is a unique identifier of the data in a columnar database?

Options

This problem has only one correct answer

Row id

Key

Timestamp
Can be any column

Correct Answer : A

Solution Description

Columnar NoSQL Database stores data in columns instead of rows. It speeds up the read and write process from the memory to return a query faster. It stores data in a way that greatly improves disk I/O performance. So, the unique identifier in the data become the row_id of the database

16-Tut : MCQ - 16

[Send Feedback](#)

Which property of the columnar database makes it apt for a content management system.

Options

This problem has only one correct answer

Aggregation
Scalability
Flexible
Compression

Correct Answer : D

Solution Description

Explanation: Compression: Column stores are very efficient at data compression and this is why it is used for content management systems.

17-Tut : MCQ - 17

[Send Feedback](#)

In document based nosql database, data models contains

Options

This problem has only one correct answer

Tables
Documents
Key value pair
None

Correct Answer : B

Solution Description

Document Based NoSQL database are very similar to key-value databases. Here information is stored in a document along with a key pair. It uses the internal structure of the document for identification and storage. The data is saved as an instance in the database in comparison to how we do it in relational databases i.e. in tabular form. This method of storing data makes it easier for users to map the data in the database

18-Tut : MCQ - 18

[Send Feedback](#)

Which of the following implements ACID transactions

Options

This problem has only one correct answer

- a. Key-value Nosql database
- b. Relational database
- c. Document based nosql database
- d. b and c

Correct Answer : D

Solution Description

ACID property is implemented by: Relational as well as Document-based NoSQL database. Key-value pair doesn't implement ACID properties.

19-Tut : MCQ - 19

[Send Feedback](#)

Ebay has many of it's projects running on MongoDB, which kind of database is being used?

Options

This problem has only one correct answer

- Columnar Nosql database
- Key-value Nosql database
- Document based nosql database
- none

Correct Answer : C

Solution Description

MongoDB is a type of Document type database. It stores data in the form of JSON format. MongoDB is developed by MongoDB Inc. and licensed under the Server Side Public License. Some real-life applications of document-based databases:

1. Blogging sites like Twitter
2. Analytical platforms
3. E-commerce platforms like Amazon, eBay.
4. Content management systems.

20-Tut : MCQ - 20

[Send Feedback](#)

Which of the following databases contains edges and nodes.

Options

This problem has only one correct answer

- Columnar Nosql database
- Key-value Nosql database
- Document based nosql database
- Graph based nosql database

Correct Answer : D

Solution Description

Graph Based NoSQL is a collection of related objects. Each node in the graph represents an entity, where all of them are interconnected, the edge through which nodes are connected defines relationships among them.

21-Tut : MCQ - 21

[Send Feedback](#)

When we need to store a database of social websites like facebook, what database should be used.

Options

[This problem has only one correct answer](#)

- [Columnar Nosql database](#)
- [Graph based nosql database](#)
- [Key-value Nosql database](#)
- [Document based nosql database](#)

[Correct Answer : B](#)

Solution Description

Real-Life applications where Graph-based database is used:

1. It can work really well when working on social networks.
2. It can be used to support transportation systems as well.
3. It can be used to detect fraud in transactions.
4. It can be used to store criminal network data.

22-Tut : MCQ - 22

[Send Feedback](#)

More than One Correct.

Which of the following can be stored using graph based nosql database

Options

[This problem may have one or more correct answers](#)

- [Medical history of a person](#)
- [Fraud Detection](#)
- [Recommendation engine](#)
- [Network and IT operations](#)

[Correct Answer : A, B, C, D](#)

Solution Description

The graph-based representation will help understand all these situations better because it will help define the relationship (if any). Like for network and IT operations, how are employees connected. Professionals these days actively use LinkedIn to connect.

For the Recommendation Engine, it will depend upon the searches/purchases we have made, a relationship will be established between them and hence recommendations will be made.

For the medical history of a person, there could be cases where certain diseases make a person prone to other diseases as well. So that relationship could be established. It could also be used to explain a condition if anything is being inherited in the genes.

For Fraud detection, it works if any odd amount of money is being withdrawn from the account. Now to get that judgement of odd, the database contains previous all the transactions made, along with the time they were made.

These form a relationship in-between them and if something is observed out of trend/rules of relationship, fraud is detected.

Any other database will make this process of forming relationships very tedious, hence graph-based databases are used which are quite simple to comprehend when talking about relationships among entities.

23-Tut : MCQ - 23

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Out of the following, which is an apt reason to use an SQL database?

Options

[This problem has only one correct answer](#)

[It can easily store unstructured data.](#)

[It can enable development in the cloud](#)

[It's ACID-compliant](#)

[None](#)

[Correct Answer : C](#)

Solution Description

Some of the reasons why we should use SQL databases.

1. SQL databases are long-established with a fixed schema design and a set structure.

2. SQL databases are ideal for applications that require multi-row transactions such as an accounting system or for legacy systems that were built for a relational structure.

3. SQL databases are in accordance with ACID properties.

24-Tut : MCQ - 24

[Send Feedback](#)

Which of the following databases is idle for being used for User's session data retrieval?

Options

[This problem has only one correct answer](#)

[Columnar Nosql database](#)

[Graph based nosql database](#)

[Key-value Nosql database](#)

[Document based nosql database](#)

[Correct Answer : C](#)

Solution Description

Explanation: Key-value stores are ideal for storing and retrieving session data at high speeds. The unique Id generated by cookies act as a key while the other information such as user profiles act as a value.

25-Tut : MCQ - 25

[Send Feedback](#)

Which situation from the following will be apt to use key-value stores?

Options

This problem has only one correct answer

- Blogging
- Managing Web Advertisements
- Google maps
- Manage data warehouse

Correct Answer : B

Solution Description

Explanation: Key-Value databases are mainly used by web advertisement companies. On the basis of users' online activity, web advertisement companies decide which advertisement to show to the user. It is also important to note that serving advertisements should be fast enough. It is important to target the right advertisement to the right customer in order to receive more clicks and hence to maximize the profits.

Combination of factors such as user's tracked activity online, language and location determine what a user is interested in forms the key while as all other factors that are needed to serve the advertisement better are kept as the value in key-value databases.

26-Tut : MCQ - 26

[Send Feedback](#)

Which database is a smart choice for data warehousing and big data processing.

Options

This problem has only one correct answer

- Columnar Nosql database
- Graph based nosql database
- Key-value Nosql database
- Document based nosql database

Correct Answer : A

Solution Description

Explanation: A columnar database stores data by columns rather than by rows, which makes it suitable for analytical query processing, faster retrieval and thus for data warehouses

27-Tut : MCQ - 27

[Send Feedback](#)

Which of the following databases will be the best choice to maintain the Images data if required for any sort of project.

Options

This problem has only one correct answer

- Columnar Nosql database
- Graph based nosql database

[Key-value Nosql database](#)
[Document based nosql database](#)

Correct Answer : D

Solution Description

Explanation: CouchDB, will contain a bucket for the JSON documents containing the metadata about each image.

Another bucket can also be used to store the thumbnail of the image which might work as key for the data structure.

28-Tut : MCQ - 28

[Send Feedback](#)

Out of the following, for which situation a graph based database will be apt.

Options

This problem has only one correct answer

[Semantic Search](#)

[Leaderboard for online games](#)

[Content management](#)

[Shopping cart at any online e-commerce website.](#)

Correct Answer : A

Solution Description

Explanation: Semantic search is search with meaning, as opposed to “normal” search where the search engine looks for literal matches of the queried words without understanding the overall meaning of the query.

It takes into account the context of search, location and the intent of queries. It understands the searcher’s intent and the contextual meaning of terms in the Web, or on an enterprise data storage, and provides more relevant results.

Hence, graph based database will be able to workout these relationships and come up with better results.

L22 : Database Types

1-Tut : MCQ - 1

[Send Feedback](#)

Choose the correct option to fill in the blanks.

Database _____ is the logical design of the database, and the database_____ is a snapshot of the data in the database at a given instant in time.

Options

This problem has only one correct answer

Instance, Schema

Relation, Schema

Relation, Domain

Schema, Instance

Correct Answer : D

Solution Description

A **database schema** provides a logical view of the database. It is like a skeleton structure for the database. A database schema is also known as the design of the database. The **database instance** is also known as the current state or database state. Database instance provides us with information about what data is stored in a database at a particular moment.

2-Tut : MCQ - 2

[Send Feedback](#)

Which of the following is true regarding Referential Integrity?

Options

This problem has only one correct answer

Every primary-key value must match a primary-key value in an associated table

Every foreign-key value must match a primary-key value in an associated table

Every foreign-key value must match a foreign-key value in an associated table

Every primary-key value must match a foreign-key value in an associated table

Correct Answer : B

Solution Description

Referential Integrity Constraint specifies that all the values taken by the foreign key must either be available in relation to the primary key or be null.

3-Tut : MCQ - 3

[Send Feedback](#)

Which of the following is true concerning an OODBMS?

Options

This problem has only one correct answer

They are overtaking RDBMS for all applications.

They have the ability to store complex data types on the Web.

They are most useful for traditional, two-dimensional database table applications.

None of the above

Correct Answer : B

Solution Description

Explanation: OODBMS can handle complex data relations and more variety of data types than standard relational databases.

4-Tut : MCQ - 4

[Send Feedback](#)

Which of these is most like a hierarchical database?

Options

This problem has only one correct answer

Spreadsheet

Family tree

Book

All of the above

Correct Answer : B

Solution Description

In the hierarchical database, the data is stored in the form of records and organized into a tree-like structure, in which a node can have as many sub-nodes as it wants, connected through edges. Some examples of hierarchical databases are IBM's Information Management System (IMS) and the RDM Mobile. Hierarchical Databases structurally look like a family tree.

5-Tut : MCQ - 5

[Send Feedback](#)

What is the basic relationship in a hierarchical database?

Options

This problem has only one correct answer

Siblings

Grandparent-grandchild

Data is not related

Parent-child

Correct Answer : D

Solution Description

The hierarchical database model mandates that every child record has just one parent, whereas each parent record can have one or more child records. so as to retrieve data from a hierarchical database, the entire tree must be traversed ranging from the basis node.

6-Tut : MCQ - 6

[Send Feedback](#)

Network models are complicated by physical keys, but the Relation model is

Options

This problem has only one correct answer

faster because it uses logical keys

slower because it uses physical keys

faster because it uses physical keys

slower because it uses logical keys

Correct Answer : A

Solution Description

Explanation: logical keys here refer to primary key and foreign key which are more apt for relational models to work.

7-Tut : MCQ - 7

[Send Feedback](#)

A network structure _____.

Options

This problem has only one correct answer

is conceptually simple

is a physical representation of the data

allows a many-to-many relationship

will be the dominant database of the future

Correct Answer : C

Solution Description

A network database is a modified form of hierarchical database in which a member entity (similar to child entity in a hierarchical database) can have multiple relations with different owner entities (similar to parent entity in hierarchical database). Hence allowing a many-to-many relationship.

8-Tut :

L23 : Database Optimization

1-Tut : MCQ - 1

[Send Feedback](#)

A transaction can proceed only after the concurrency control manager _____ the lock to the transaction.

Options

This problem has only one correct answer

- Acquires
- Allocates
- Grants
- none

Correct Answer : C

Solution Description

Explanation: A transaction can proceed only after the concurrency control manager grants the lock to the transaction.

2-Tut : MCQ - 2

[Send Feedback](#)

Which of the following concurrency control protocols ensure both conflict serializability and free from deadlock?

Options

This problem has only one correct answer

- a. Timestamp ordering
- b. 2 Phase locking
- c. Both (a) and (b)
- d. None

Correct Answer : A

Solution Description

2-phase locking is a concurrency control method that ensures conflict serializability. The protocol utilizes locks, applied by a transaction to data, which may block other transactions from accessing the same data during the transaction's life. The timestamp-based concurrency control algorithm is a non-lock concurrency control method. This method also ensures conflict serializability.

We know that deadlock is a situation where the transactions try to access lock on already locked data items. So, 2 phase locking may lead to deadlock states that can result in the mutual blocking of two or more transactions.

But in timestamp, each transaction is allocated with the time slot. Hence it can't enter a deadlock. So Timestamp ordering ensures both the conflict serializability and is free from deadlocks

3-Tut : MCQ - 3

[Send Feedback](#)

Concurrency control in RDBMS is important for which of the following reasons ?

Options

This problem has only one correct answer

- To ensure data integrity when updates occur to the database in a single -user environment.
- To ensure data integrity when reads occur to the database in a single-user environment.
- To ensure data integrity when updates occur to the database in a multi-user environment.**
- To ensure data integrity when reads occur to the database in a multi-user environment.

Correct Answer : C

Solution Description

Concurrency control is the management procedure that controls concurrent execution of the multiple operations done by multiple users at the same time on the same database. We need concurrency control to manage these concurrent executions of the operations and help maintain consistency in the database

4-Tut : MCQ - 4

[Send Feedback](#)

T1	T2	T3
Read(X)	Read(Z)	Read(X)
Write(Y)	Write(W)	Write(P)
Write(Z)	Read(X)	

Consider the transactions:

Which of these is are in conflict?

Options

This problem has only one correct answer

- T1 and T2, T1 and T3
- T1, T2 and T3
- T1 and T3, T2 and T3
- T1 and T2**

Correct Answer : D

Solution Description

Explanation: Two operations are said to be conflicting if all conditions satisfy:

1. They belong to different transactions
2. They operate on the same data item
3. At Least one of them is a write operation

We can see that T1 is reading X and writing on Y and Z . Similarly T2 is reading Z and X plus writing on X. We can notice that both the transactions have Z in common, which can lead to conflict. While X is also common for both the transactions, it would not lead to conflict as both T1 and T2 are only performing read on it

5-Tut : MCQ - 5

[Send Feedback](#)

Which of the following Concurrency controls is prone to deadlocks.

Options

This problem has only one correct answer

Timestamp Based Concurrency Control

Lock Based Concurrency Control

Both

None

Correct Answer : B

Solution Description

Explanation: Deadlock, a situation where the transactions try to access lock on already locked data items. Whereas in timestamp, each transaction is allocated with the time slot. Hence it can't enter a deadlock.

6-Tut : MCQ - 6

[Send Feedback](#)

Which of the following is not an advantage of database clustering?

Options

This problem has only one correct answer

Load Balancing

Data Redundancy

Increased Availability

Decreased Availability

Correct Answer : D

Solution Description

Clustering is the process of combining more than one server or instance holding the same database. We can say a cluster is a set of replicated servers.

Clustering helps us with a lot of features like

1. **Data Redundancy:** Clustering databases helps with data redundancy, as we store the same data at multiple servers. The redundancy that clustering offers is required and is quite certain due to the synchronization.

2. **Load Balancing:** Clustering of databases also helps the servers with the load balancing i.e., if there's only one server and there are a lot of requests coming in to access the database then it may become difficult for a server to handle all the requests. Clustering helps to reduce load balancing.

3. **Increased Availability:** An availability of a database is defined as the time when we can access the database. Now as we have clusters of servers available, even if one of the databases is going through a transaction, now the other servers can be used to access the database with the help of a load balancer. Also, even if a server fails, the database will be available. Hence, due to clustering, the databases have high availability.

7-Tut : MCQ - 7

[Send Feedback](#)

Database uses _____ to support deployments with very large data sets by dividing the data over multiple servers.

Options

This problem has only one correct answer

- Replication
- Sharding
- Both
- None

Correct Answer : B

Solution Description

Sharding is a method of partitioning and storing a single logical set of data in multiple databases which is stored on multiple servers. It is an extension of horizontal partitioning. Databases use sharding to support deployments with very large data sets by dividing the data over multiple servers.

8-Tut : MCQ - 8

[Send Feedback](#)

Partitioning of the database is usually committed when:

Options

This problem has only one correct answer

- Dealing with huge dataset, which one server alone cannot handle
- The requests to database access are taking longer time to be accepted i.e. long response time
- Both above
- None of the Above

Correct Answer : C

Solution Description

Partitioning is a technique that is used to divide stored database objects into separate servers. Due to this, there is an increase in performance as well as the increase in controllability of the data. We can manage huge chunks of data optimally. Partitioning is committed when we are dealing with a huge dataset or the request are taking more time than expected.

9-Tut : MCQ - 9

[Send Feedback](#)

Some of the columns of a relation are at different sites in which of the following techniques?

Options

This problem has only one correct answer

- Data Replication
- Horizontal Partitioning
- Vertical Partitioning
- Horizontal and Vertical Partitioning

Correct Answer : C

Solution Description

To partition the data they are two techniques:

1. Vertical Partitioning: In this, we partition the given data vertically i.e column-wise. So, if we are provided with table students with attributes student id, name, courseid, address, we can store this data by distributing it among servers where we store studentid, name is one server, courseid in another and address in the third one.

2. Horizontal Partitioning: In this, we partition the given data horizontally i.e. row-wise. So, have chunks of a certain size of data stored at different servers.

10-Tut : MCQ - 10

[Send Feedback](#)

A distributed database is which of the following?

Options

This problem has only one correct answer

A loose collection of file that is spread to multiple locations and is interconnected by a network.

A loose collection of file that is limited to one location.

A single logical database that is limited to one location.

A single logical database that is spread to multiple locations and is interconnected by a network

Correct Answer : D

Solution Description

A distributed database is not limited to at least one system, it covers different sites, i.e, on multiple computers or over a network of computers. A distributed database system is found on various sites that don't share physical components. This might be required when a specific database must be accessed by various users globally. It must be managed in such a way that for the users it's like one single database.

11-Tut : MCQ - 11

[Send Feedback](#)

Which of the following is true about the process of sharding?

Options

This problem has only one correct answer

- a. RDBMS locking method
- b. Extension of Horizontal Partition
- c. Technique for partitioning the data
- d. both b and c

Correct Answer : d

Solution Description

Sharding is a method of partitioning and storing a single logical set of data in multiple databases which is stored on multiple servers. It is an extension of Horizontal partitioning. The smaller chunks of the data that are created after sharding are called Shards.

L24 : SQL Queries and Assessment

1-Tut : **Query 1**

[Send Feedback](#)

Problem Statement

Write an SQL query to add a new column “*transaction_type*”, for the **transactions** table.

Note: Datatype for *transaction_type* is VARCHAR(225).

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, and transactions. The information about required tables is given below

Table *transactions*

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Data list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Note: Describe the complete table afterwards.

```
DESC table_name;
```

```
ALTER TABLE transactions ADD transaction_type VARCHAR(225);  
DESC transactions;
```

2-Tut : Query 2

[Send Feedback](#)

Problem Statement

Create the customers table for this database.

The attributes and their respective datatypes are as follows:

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, and transactions. The information about required tables is given below

Information about the table **transactions**

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

```
CREATE TABLE customers(
    customer_id VARCHAR(20) NOT NULL,
    customer_name VARCHAR(225),
    phone_no INT,
    city VARCHAR(200),
    pin_code INT,
    PRIMARY KEY (customer_id)
);
DESC customers;
-- didn't asked in question but have to do it DESC
```

3-Tut : Query 3

[Send Feedback](#)

Problem Statement

Write an SQL query to print all the details of the products whose seller's name ends with 'n' and contains only seven alphabets.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, and transactions. The information about required tables is given below.

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyn	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyn	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

select * from product where seller like '_____n';

4-Tut : Query 4

[Send Feedback](#)

Problem Statement

How many orders are currently being delivered in December 2021?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customer. The information about required tables is given below

Table **orders**

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

```
SELECT COUNT(*) FROM orders
WHERE
MONTH(est_delivery_date)= 12 AND YEAR(est_delivery_date) = 2021;
```

5-Tut : Query 5

[Send Feedback](#)

Problem Statement

Write an SQL query to show only odd rows from the product table.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, and transactions. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

SELECT * FROM product where MOD(item_id,2) <> 0;

6-Tut : Query 6

[Send Feedback](#)

Problem Statement

Make a Clone of the product table(with complete data) and name it to be giftList and print the table schema in ascending order of column name as well.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Note : Command to print table schema:-

```
SELECT table_name, column_name, data_type
FROM information_schema.columns
WHERE table_name = 'table_name';
```

```

CREATE TABLE giftList AS SELECT * FROM product;
SELECT
    table_name,
    column_name,
    data_type
FROM
    information_schema.columns
WHERE
    table_name = 'giftList'
    ORDER BY column_name;

```

7-Tut : Query 7

[Send Feedback](#)

Problem Statement

Make a Clone of the **product** table(without data) and name it to be **cloneListPro** and print the table schema of the table **cloneListPro**.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table **product**

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Table **order**

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Table **transactions**

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Table **customers**

Attributes list

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Note : Command to print table schema:-

```
SELECT table_name, column_name, data_type  
FROM information_schema.columns  
WHERE table_name = 'table_name';
```

```
CREATE TABLE cloneListPro LIKE product;
```

```
SELECT table_name, column_name, data_type  
FROM information_schema.columns  
WHERE table_name = 'cloneListPro';
```

7-a-Tut : Query-7

[Send Feedback](#)

Problem Statement

Print out the 6 records from the product table after the 3rd row.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table **product**

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Attributes list

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

SELECT * FROM product LIMIT 3,6;

8-Tut : Query - 8

[Send Feedback](#)

Problem Statement

Write a Mysql query to fetch the second most expensive item cost/price.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about different tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

SELECT MAX(price) from product where price not in(SELECT MAX(price) from product);

9-Tut : Query - 9

[Send Feedback](#)

Problem Statement

Fetch out all the product details of the 7th most expensive product.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

```
--SELECT * FROM product p1 WHERE 7-1 = (SELECT COUNT(price) FROM product p2
WHERE p2.price > p1.price);
```

```
SELECT * FROM product ORDER BY price DESC LIMIT 6,1;
```

-- offset is same thing

10-Tut : Query - 10

[Send Feedback](#)

Problem Statement

Fetch the first 33% records from a product table.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

SELECT * FROM product WHERE item_id <= (SELECT COUNT(item_id)/3 FROM product);

11-Tut : Query - 11

[Send Feedback](#)

Given below is a database of a newly established ecommerce website. The database contains multiple tables, below is the table product that contains attributes like:

Attributes	Data Types
item_id (PRIMARY KEY)	INT
product_id	INT
p_name	VARCHAR(225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR(225)
youSave	DOUBLE

Table product:

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Along with data of products available on the website we are also provided with the database of the orders made by the customers, along with transactional data based on the order they have made.

The attributes for the orders table is as follows:

Attributes	Data Types
order_id (PRIMARY KEY)	INT
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_id	INT

Table orders:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

The attributes for the transaction table is as follows:

Attributes	Data Types
transaction_id (PRIMARY KEY)	VARCHAR(20)
transaction_status	VARCHAR(225)

Table transactions:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

The attributes for the customer table are :

Attribute	Data Type
customer_id(Primary Key)	VARCHAR(20)
customer_name	VARCHAR(225)
phone_no	INT
city	VARCHAR(200)
pin_code	INT

Table customer:

customer_id	customer_name	phone_no	city	pin_code
cid1	Riya Khanna	987655443	Delhi	110005
cid2	Sahil Kumar	987657643	Mumbai	230532
cid3	Vishwas Aanand	987658871	Kolkata	700007
cid4	Harleen Kaur	987677585	Bengaluru	560006
cid5	Priyanshu Gupta	956758556	Hyderabad	500012
cid6	Lokesh Ravaliya	998295561	Bikaner	334003
cid7	Kuldeep Daga	997757204	Mandsaur	458001
cid8	Vaibhav Jain	987677757	Jalandhar	144002
cid9	Lokesh Gupta	956758500	Hyderabad	500013

Using the information provided for the eCommerce database answer the following query:

For each seller, find the number of products he/she is selling.

SELECT seller,COUNT(*) FROM product GROUP BY seller;

12-Tut : Query - 12

[Send Feedback](#)

Problem Statement

List out the five cheapest prices from the product table. (only need to list the prices)

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita EteL	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

```
--1. SELECT distinct (price) from product order by price ASC LIMIT 0,5;
SELECT distinct price from product a
WHERE 5 >= (SELECT count(distinct price) from product b
              WHERE a.price >= b.price)
ORDER BY a.price;
```

13-Tut : Query - 13

[Send Feedback](#)

Problem Statement

List out the five most expensive prices from the product table. (only need to list the prices)

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

[Attributes list](#)

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

--1. SELECT distinct(price) from product order by price DESC LIMIT 0,5;

-2. SELECT distinct price from product a

WHERE 5 >= (SELECT count(distinct price) from product b

WHERE a.price <= b.price)

ORDER BY a.price DESC;

14-Tut : Query - 14

[Send Feedback](#)

Problem Statement

What's the percentage of the products in stock with savings greater than 4000.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

```
SELECT (SELECT COUNT(*) FROM product
WHERE inStock = 'Y' and
youSave > 4000) * 100 / (SELECT COUNT(*) FROM product WHERE inStock = 'Y')
AS percentage;
```

o/p :

```
+-----+
| percentage |
+-----+
| 23.5294 |
+-----+
```

15-Tut : Query - 15

[Send Feedback](#)

Problem Statement

Write a MySQL query to display the last 4 records from the product table.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

SELECT * FROM (SELECT * from product order by item_id DESC LIMIT 4)gone order by item_id ASC;

16-Tut : Query - 16

[Send Feedback](#)

Problem Statement

Find the count of duplicate entries in the product table considering there is no primary key (item_id).

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protien	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protien	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Select product_id, seller, count(*) from product
Group by product_id, seller Having count(*)>1;

17-Tut : **Query - 17**

[Send Feedback](#)

Problem Statement

List down the count of all the similar products available across all its sellers.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

```
SELECT DISTINCT p.product_id, p.p_name, p.inStock, p.seller, q.countSame
```

```
FROM product p
```

```
INNER JOIN
```

```
(SELECT product_id, p_name, inStock, COUNT(*) as countSame
```

```

    FROM product
    GROUP BY product_id, p_name, inStock
    HAVING COUNT(*) > 1) q
    ON p.product_id = q.product_id
    AND p.p_name = q.p_name
    AND p.inStock = q.inStock
ORDER BY p.product_id, p.p_name, p.inStock, p.seller;

```

18-Tut : Query - 18

[Send Feedback](#)

Problem Statement

What is an Average total saving amount on the products sold by Maple store or Kukreja Telecom Store?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

[Attributes list](#)

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

```

SELECT AVG(TOTAL)
FROM (SELECT product_id, SUM(youSave) AS TOTAL
      FROM product GROUP BY product_id ) AS TOTALS
WHERE product_id IN
  (SELECT product_id
   FROM product
   WHERE seller = 'Maple Store' OR seller = 'Kukreja Telecom Store');
  
```

19-Tut : Query - 19

[Send Feedback](#)

Problem Statement

For each product, list down the min price of the product and the average percentage of savings available across all the sellers who sell more than one product.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Output

The result set should have product id, product name, minimum price and average percentage as avgP.

```
SELECT product_id,p_name,MIN(price),AVG(youSave*100)/SUM(youSave) AS avgP
FROM product
GROUP BY product_id,p_name
HAVING COUNT(*) > 1;
```

20-Tut : Query - 20

[Send Feedback](#)

Problem Statement

Enlist all the customers_id and their name for all the products names?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Output

The result set should have the product name, customer id and customer name.

```
SELECT DISTINCT p1.p_name,c1.customer_id,c1.customer_name  
FROM product p1 INNER JOIN orders as o1 ON o1.product_id = p1.product_id  
INNER JOIN customer as c1 ON o1.customer_id = c1.customer_id;
```

21-Tut : Query - 21

[Send Feedback](#)

Problem Statement

Get the product_ID and the total sale of each product ordered?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Information about the table **transactions**

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Data list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Table **customers**

Attributes list

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Data list

customer_id	customer_name	phone_no	city	pin_code
cid1	Riya Khanna	987655443	Delhi	110005
cid2	Sahil Kumar	987657643	Mumbai	230532
cid3	Vishwas Aanand	987658871	Kolkata	700007
cid4	Harleen Kaur	987677585	Bengaluru	560006
cid5	Priyanshu Gupta	956758556	Hyderabad	500012
cid6	Lokesh Ravaliya	998295561	Bikaner	334003
cid7	Kuldeep Daga	997757204	Mandsaur	458001
cid8	Vaibhav Jain	987677757	Jalandhar	144002
cid9	Lokesh Gupta	956758500	Hyderabad	500013

Output

The result set should have product_id , and count of products as attributes.

```
SELECT product_id,COUNT(product_id)
FROM orders GROUP BY product_id;
```

22-Tut : Query - 22

[Send Feedback](#)

Problem Statement

Enlist the transaction_status for all products ordered?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Information about the table **transactions**

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Data list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

```
SELECT T1.transaction_id  
FROM orders AS o1 LEFT JOIN transactions T1 ON  
    o1.transaction_id = T1.transaction_id;
```

23-Tut : **Query - 23**

[Send Feedback](#)

Problem Statement

List all the product names with their respective payment date and delivery date and sort the output table w.r.t to delivery date?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Table transactions

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Data list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Output

The result set should have the product name, payment date and delivery date as columns.

```
SELECT DISTINCT p1.p_name,o1.payment_date,o1.est_delivery_date
FROM product p1 INNER JOIN orders o1
      on o1.product_id = p1.product_id
ORDER BY est_delivery_date;
```

24-Tut : Query - 24

[Send Feedback](#)

Problem Statement

List all the not completed transaction_status for all order_id?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes list

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhri telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table **order**

Attributes list:

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Table **transactions**

Attributes list

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Data list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Output

The result set should have the Id, product's Id, customer's Id and the transaction Id's.

```
SELECT o1.order_id,o1.product_id,o1.customer_id,o1.transaction_id  
FROM orders o1 JOIN transactions T1 ON T1.transaction_id = o1.transaction_id  
WHERE T1.transaction_status = 'not completed';
```

25-Tut : Query - 25

[Send Feedback](#)

Problem Statement

List down the product names along with the details like the time the payment for the order was made and delivery date along with the transaction status of that product by the customer and sort it according to their respective payment date.

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Attributes list

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Attributes list:

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Table transactions

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Attributes list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Data list:

Table customers

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Attributes list:

Data list:

customer_id	customer_name	phone_no	city	pin_code
cid1	Riya Khanna	987655443	Delhi	110005
cid2	Sahil Kumar	987657643	Mumbai	230532
cid3	Vishwas Aanand	987658871	Kolkata	700007
cid4	Harleen Kaur	987677585	Bengaluru	560006
cid5	Priyanshu Gupta	956758556	Hyderabad	500012
cid6	Lokesh Ravaliya	998295561	Bikaner	334003
cid7	Kuldeep Daga	997757204	Mandsaur	458001
cid8	Vaibhav Jain	987677757	Jalandhar	144002
cid9	Lokesh Gupta	956758500	Hyderabad	500013

```

SELECT distinct product.p_name, orders.payment_date, orders.est_delivery_date,
transactions.transaction_status
FROM product
INNER JOIN orders ON product.product_id = orders.product_id
INNER JOIN transactions ON orders.transaction_id = transactions.transaction_id
ORDER BY orders.payment_date;

```

26-Tut : Query - 26

[Send Feedback](#)

Problem Statement

Enlist all orders for a customer with a “d” in their name?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table **product**

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

Attributes list

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailyen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailyen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Attributes list:

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Table transactions

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Attributes list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Data list:

Table customers

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Attributes list:

Data list:

customer_id	customer_name	phone_no	city	pin_code
cid1	Riya Khanna	987655443	Delhi	110005
cid2	Sahil Kumar	987657643	Mumbai	230532
cid3	Vishwas Aanand	987658871	Kolkata	700007
cid4	Harleen Kaur	987677585	Bengaluru	560006
cid5	Priyanshu Gupta	956758556	Hyderabad	500012
cid6	Lokesh Ravaliya	998295561	Bikaner	334003
cid7	Kuldeep Daga	997757204	Mandsaur	458001
cid8	Vaibhav Jain	987677757	Jalandhar	144002
cid9	Lokesh Gupta	956758500	Hyderabad	500013

Output

The result set should have the customer's name and order's id.

```
SELECT c1.customer_name,o1.order_id  
FROM customer c1  
JOIN orders o1 ON o1.customer_id = c1.customer_id  
WHERE c1.customer_name LIKE '%d%';
```

27-Tut : Query - 27

[Send Feedback](#)

Problem Statement

List total payments received from all customers of the e-commerce website?

Information about the tables:

Given below is a database of a newly established e-commerce website. The database contains multiple tables i.e. products, orders, transactions, and customers. The information about required tables is given below

Table product

Attributes	Data Type
item_id	INT (Primary Key)
product_id	INT
pname	VARCHAR (225)
inStock	CHAR
price	DOUBLE
arrival_days	INT
seller	VARCHAR (225)
youSave	DOUBLE

[Attributes list](#)

Data list

item_id	product_id	p_name	inStock	price	arrival_days	seller	youSave
1	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
2	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
3	7556	Iphone 11 (128GB)	Y	53500	4	Kukreja Telecom Store	1400
4	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
5	99	Mini organising tech kit	Y	1400	2	dailen	200
6	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
7	5454	Iphone 11 (64GB)	Y	46999	3	Maple Store	3000
8	4324	Women's Cotton Blend Straight Kurti with Palazzos	Y	549	10	Maxx Store	1000
9	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
10	9753	OnePlus Buds Z	N	2999	3	Appario Retail Private Ltd	191
11	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
12	6477	Ikigai: The Japanese secret to a long and happy life	Y	427	3	Cloudtail India	123
13	7556	Iphone 11 (128GB)	N	51300.05	5	Maple Store	3600
14	1111	Solimo Trance High Back Mesh Contemporary Office Chair (Black)	Y	7599	4	Cloudtail India	5901
15	2222	Nayasa 2 in 1 Dustbin - Dry Waste and Wet Waste Dustbin (33 Ltrs) - Big	Y	1339	7	Cloudtail India	189
16	5555	Ben Martin Men's Relaxed Jeans	N	698	12	Maxx Store	100
17	7777	OnePlus 9 Pro 5G (256GB)	Y	65999	2	Darshita Etel	4000
18	6754	Inalsa Electric Kettle Absa (Black/Silver)	Y	591	9	k3stores	10040
19	2223	optimum whey protein	Y	1614	7	Cloudtail India	245
20	529	MI Mobile cover	Y	999	5	dailen	500
21	5655	Redmi 9 Activ (128GB)	N	10999	3	Darshita Electronics	200
22	7556	Iphone 11 (128GB)	Y	54900	7	Sunil mobile Store	0
23	9753	OnePlus Buds Z	N	4000	5	sekhi telecoms	200
24	5454	Iphone 11 (64GB)	Y	43999	7	imagine store	6000

Table order

Attributes	Data Type
order_id	INT (Primary Key)
product_id	INT
customer_id	INT
payment_date	DATE
est_delivery_date	DATE
transaction_days	INT

Attributes list:

Data list:

order_id	product_id	customer_id	checkout_price	payment_date	est_delivery_date	transaction_id
oid1	7777	cid3	63999	2021-11-12	2021-11-14	tid1
oid2	7556	cid1	51300	2021-11-09	2021-11-13	tid2
oid3	6754	cid5	591	2021-11-24	2021-12-03	tid3
oid4	7556	cid3	51300	2021-11-10	2021-11-14	tid4
oid5	6477	cid2	500	2021-11-06	2021-11-09	tid5
oid6	2223	cid7	1514	2021-11-27	2021-12-04	tid6

Table transactions

Attributes	Data Type
transaction_id	VARCHAR (20) (Primary Key)
transaction_status	VARCHAR (25)

Attributes list:

transaction_id	transaction_status
tid1	completed
tid2	not completed
tid3	not completed
tid4	completed
tid5	completed
tid6	not completed

Data list:

Table customers

Attributes	Data Type
customer_id	VARCHAR (20) (Primary Key)
customer_name	VARCHAR (225)
phone_no	INT
city	VARCHAR (200)
pin_code	INT

Attributes list:

Data list:

customer_id	customer_name	phone_no	city	pin_code
cid1	Riya Khanna	987655443	Delhi	110005
cid2	Sahil Kumar	987657643	Mumbai	230532
cid3	Vishwas Aanand	987658871	Kolkata	700007
cid4	Harleen Kaur	987677585	Bengaluru	560006
cid5	Priyanshu Gupta	956758556	Hyderabad	500012
cid6	Lokesh Ravaloya	998295561	Bikaner	334003
cid7	Kuldeep Daga	997757204	Mandsaur	458001
cid8	Vaibhav Jain	987677757	Jalandhar	144002
cid9	Lokesh Gupta	956758500	Hyderabad	500013

Output

The result set should have the Customer's Id and the total payment they have made for all the orders.

```
SELECT c1.customer_id,SUM(o1.checkout_price) AS totalpayment FROM customer as c1  
LEFT JOIN orders o1  
ON o1.customer_id = c1.customer_id  
GROUP by customer_id;
```

28-Tut :