

Question # 2 of 10 ( Start time: 05:03:16 PM, 13 November 2024 )

In three level architecture of the database which level is responsible for storage of data on some storage media?

Select the correct option



Conceptual view



External view



Internal/Physical view



Logical view

## Question # 1 of 10 ( Start time: 05:02:46 PM, 13 November 2024 )

In the below entity type which attribute can work as an alternate key?

Employee ( Reg# Primary key, Name , CNIC, designation, address, phone)

Select the correct option



Designation



Phone



CNIC



Address

## Question # 3 of 10 ( Start time: 05:03:44 PM, 13 November 2024 )

In three level architecture of the database, which level is helpful to display data which is not actually placed in the database?

Select the correct option

<input checked="" type="radio"/>	External level
<input type="radio"/>	Conceptual level
<input type="radio"/>	Internal level
<input type="radio"/>	Physical level

## Question # 4 of 10 ( Start time: 05:04:06 PM, 13 November 2024 )

Which of the following clarify the semantics of a relationship?

## Select the correct option

- |                                  |                  |
|----------------------------------|------------------|
| <input type="radio"/>            | Entity           |
| <input type="radio"/>            | Relationship set |
| <input checked="" type="radio"/> | Roles            |
| <input type="radio"/>            | Participants     |

Question # 5 of 10 ( Start time: 05:04:27 PM, 13 November 2024 )

Which of the following is an example of a weak entity?

Select the correct option

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | An employee supervises another employee   |
| <input checked="" type="radio"/> | Shahid account of XYZ bank has no existence if the XYZ bank doesn't exist anymore |
| <input type="radio"/>            | Ali is a good friend of Bilal   |
| <input type="radio"/>            | The tire can exist without being attached to the car                              |

## Question # 6 of 10 ( Start time: 05:04:58 PM, 13 November 2024 )

How data security can be assured in the database?

## Select the correct option

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="radio"/>            | Through concurrent access of users  |
| <input checked="" type="radio"/> | Implementing encryption algorithms  |
| <input type="radio"/>            | By hiding data from all             |
| <input type="radio"/>            | By asking users not to share things |

## Question # 7 of 10 ( Start time: 05:05:28 PM, 13 November 2024 )

In the employee table, we may store the name, father name, phone, but age can be computed from the date of birth. So Age is the best example of the ----- attribute.

Select the correct option



Multivalued



Single valued



Derived



Composite

## Question # 8 of 10 ( Start time: 05:06:18 PM, 13 November 2024 )

In database development process, proper study of the system is called\_\_\_\_\_.

## Select the correct option

<input checked="" type="radio"/>	Requirement analysis
<input type="radio"/>	System analysis
<input type="radio"/>	Real word scenario study
<input type="radio"/>	Preliminary Study

Question # 9 of 10 ( Start time: 05:06:57 PM, 13 November 2024 )

In data flow diagram (DFD) \_\_\_\_\_ is a repository for the storage of the data.

Select the correct option



Process



Data dictionary



Data store



Schema

## Question # 10 of 10 ( Start time: 05:07:18 PM, 13 November 2024 )

A collection of concepts that can be used to describe the structure of a database is called \_\_\_\_\_.

Select the correct option

<input type="radio"/>	Data
<input checked="" type="radio"/>	Data model
<input type="radio"/>	Database
<input type="radio"/>	DBMS

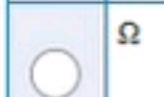
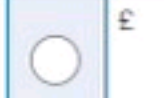
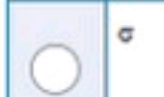
Question # 1 of 10 ( Start time: 01:18:39 PM, 27 November 2024 )

In relational algebra, which of the following Greek letter is used to represent the Project Operator?

Lec # 17

Pg# 153 - 161

Select the correct option

 $\pi$  $\Omega$  $\epsilon$  $\sigma$ 

→ Select

**Weak Entity Types** cannot exist independent.

An entity type whose instances cannot exist without being linked with instances of some other entity type, i.e., they cannot exist independently. For example, in an organization we want to maintain data about the vehicles owned by the employees. Now a particular vehicle can exist in this organization only if the owner already exists there as employee. Similarly, if employee leaves the job and the organization decides to delete the record of the employee then the record of the vehicle will also be deleted since it cannot exist without being linked to an instance of employee.

**Strong Entity Type** can exist independent.

An entity type whose instances can exist independently, that is, without being linked to the instances of any other entity type is called strong entity type. A major property of the strong entity types is that they have their own identification, which is not always the case with weak entity types. For example, employee in the previous example is an independent or strong entity type, since its instances can exist independently.

Question # 2 of 10 ( Start time: 01:19:16 PM, 27 November 2024 )

In \_\_\_\_\_ join, only selected rows of a relation are made cross product with second relation.

Pg#168

Select the correct option

<input checked="" type="radio"/>	Theta
<input type="radio"/>	Outer
<input type="radio"/>	Semi
<input type="radio"/>	Normal

## Question # 3 of 10 ( Start time: 01:19:50 PM, 27 November 2024 )

A \_\_\_\_\_ entity has a primary key that is partially or totally derived from the parent entity in the relationship.

Select the correct option

- |                                  |              |
|----------------------------------|--------------|
| <input type="radio"/>            | Relationship |
| <input type="radio"/>            | Business     |
| <input checked="" type="radio"/> | Weak         |
| <input type="radio"/>            | strong       |

**Semi Join:** common attributes appear only once in natural join.

In semi join, first we take the natural join of two relations then we project the attributes of first table only. So after join and matching the common attribute of both relations only attributes of first relation are projected. For Example if we take the semi join of two relations faculty and course then the resulting relation would be as under:-

## Question # 5 of 10 ( Start time: 01:20:52 PM, 27 November 2024 )

The foreign key attribute, which is present as a primary key in another relation is called as \_\_\_\_\_ of the foreign key attribute.

## Select the correct option

- |                                  |                    |
|----------------------------------|--------------------|
| <input type="radio"/>            | Recursive relation |
| <input checked="" type="radio"/> | Binary relation    |
| <input type="radio"/>            | Composite relation |
| <input type="radio"/>            | Home relation      |

in RDM. The relation in RDM is similar to the mathematical relation however database relation is also represented in a two dimensional structure called table. A table consists of rows and columns. Rows of a table are also called tuples. A row or tuple of a table represents a record or an entity instance, where as the columns of the table represent the properties or attributes.

What is tuple..??

stID	stName	clName	doB	sex
S001	M. Suhail	MCS	12/6/84	M
S002	M. Shahid	BCS	3/9/86	M
S003	Naila S.	MCS	7/8/85	F
S004	Rubab A.	MBA	23/4/86	F
S005	Ehsan M.	BBA	22/7/88	M

## Question # 6 of 10 ( Start time: 01:21:52 PM, 27 November 2024 )

A row of a table represents a \_\_\_\_\_, whereas the column of the table represents the \_\_\_\_\_.

## Select the correct option



Property, record



Property, tuple



Attribute, record



Record, attribute

Question # 7 of 10 ( Start time: 01:22:17 PM, 27 November 2024 )

Which of the following is a Unary operation?

Select the correct option



Union



Set Difference



Project

&amp; Select



Cartesian Product

### Default Value:

This constraint means that if we do not give any value to any particular attribute, it will be given a certain (default) value. This constraint is generally used for the efficiency purpose in the data entry process. Sometimes an attribute has a certain value that is assigned to it in most of the cases. For example, while entering data for the students, one attribute holds the current semester of the student. The value of this attribute is changed as a student passes through different exams or semesters during its degree. However, when a student is registered for the first time, it is generally registered in the first semester. So in the new records the value of current semester attribute is generally 1. Rather than expecting the person entering the data to enter 1 in every record, we can place a default value of 1 for this attribute. So the person can simply skip the attribute and the attribute will automatically assume its default value.

Question # 8 of 10 ( Start time: 01:22:39 PM, 27 November 2024 )

Which of the following constraint means that if we do not give any value to any particular attribute, it will be given a certain value?

Select the correct option

- |                                  |                       |
|----------------------------------|-----------------------|
| <input type="radio"/>            | Entity Integrity      |
| <input type="radio"/>            | Domain                |
| <input type="radio"/>            | Referential integrity |
| <input checked="" type="radio"/> | Default               |

## Question # 9 of 10 ( Start time: 01:23:01 PM, 27 November 2024 )

When one entity instance needs instance of another entity for its existence, then it is called .....

## Select the correct option



Identifier dependency



Referential dependency



Acceptance dependency



Existence dependency

Question # 10 of 10 ( Start time: 01:23:32 PM, 27 November 2024 )

Logical database design, like conceptual database design is our\_\_\_\_\_.

Select the correct option

- |                                  |                   |
|----------------------------------|-------------------|
| <input checked="" type="radio"/> | Data model        |
| <input type="radio"/>            | Database design   |
| <input type="radio"/>            | Weak entity set   |
| <input type="radio"/>            | Strong entity set |

## Question # 1 of 5 ( Start time: 04:12:05 PM, 09 November 2024 )

In an Entity Relationship diagram, a rectangle represents \_\_\_\_\_.

## Select the correct option

<input type="radio"/>	Relationship
<input type="radio"/>	Identifier
<input type="radio"/>	Attributes
<input checked="" type="radio"/>	Entities

Question # 2 of 5 ( Start time: 04:12:40 PM, 09 November 2024 )

In Entity Relationship Data Model, which of the following symbol is used to represent Entity Type?

Select the correct option



Parallelogram



Oval



Rectangle



Diamond

----- represents characteristics of an object.

Select the correct option



Relationship



Attribute



Cardinality



Modality

Question # 4 of 5 ( Start time: 04:13:31 PM, 09 November 2024 )

The process of identifying entity types, their properties and relationships between them is known as\_\_\_\_\_.

Select the correct option



Descriptor



Phrase



Abstraction



Cardinality

Question # 5 of 5 ( Start time: 04:14:49 PM, 09 November 2024 )

Which of the following statement is true about Entity Set?

Select the correct option



A group of relationship between different entities



A group of entity instances of a particular entity type



A group of attributes of a particular entity type



A group of instances of particular attributes

Question # 2 of 10 ( Start time: 05:10:23 PM, 13 November 2024 )

SQL server is a -----.

Select the correct option



DBMS



Database



Application program



Operating system

Question # 1 of 10 ( Start time: 05:09:13 PM, 13 November 2024 )

Which of the following statement is true about Entity Set?

Select the correct option



A group of entity instances of a particular entity type



A group of instances of particular attributes



A group of relationship between different entities



A group of attributes of a particular entity type

Question # 3 of 10 ( Start time: 05:11:02 PM, 13 November 2024 )

In SQL server, data is stored in database in the form of \_\_\_\_\_.

Select the correct option



Objects



Files



Tables



Images

Question # 4 of 10 ( Start time: 05:11:37 PM, 13 November 2024 )

Which of the following is the main user interface of Microsoft SQL server?

Select the correct option

- |                                  |                           |
|----------------------------------|---------------------------|
| <input type="radio"/>            | Voice-activated interface |
| <input type="radio"/>            | Modular Interface         |
| <input checked="" type="radio"/> | Graphical User Interface  |
| <input type="radio"/>            | Gesture-based Interface   |

Question # 6 of 10 ( Start time: 05:12:33 PM, 13 November 2024 )

In a Data Flow Diagram, \_\_\_\_\_ symbol is used to express the convergence of several data flow connections to a single point.

Select the correct option

- |                                  |           |
|----------------------------------|-----------|
| <input checked="" type="radio"/> | Merger    |
| <input type="radio"/>            | Collector |
| <input type="radio"/>            | Oval      |
| <input type="radio"/>            | Diamond   |

Question # 7 of 10 ( Start time: 05:12:57 PM, 13 November 2024 )

A graphical representation of system showing flow of data between its different components is known as \_\_\_\_\_.

Select the correct option

- |                                  |                   |
|----------------------------------|-------------------|
| <input checked="" type="radio"/> | Gantt Chart       |
| <input type="radio"/>            | Pie Chart         |
| <input type="radio"/>            | Hierarchy Charts  |
| <input checked="" type="radio"/> | Data Flow Diagram |

According to the definition of an entity, which of the following is NOT included in it?

Select the correct option

<input checked="" type="radio"/>	Person
<input type="radio"/>	Concept
<input type="radio"/>	Action
<input type="radio"/>	Object

Question # 10 of 10 ( Start time: 05:14:02 PM, 13 November 2024 )

The first step of creating level 0 Data Flow Diagram is to .....

Select the correct option



Represent interaction between external entities



Identify prominent modules of system



Establish link between different entities



Create a Data Store

Question # 1 of 5 ( Start time: 08:16:01 AM, 15 November 2024 )

Super type/sub type are \_\_\_\_\_ between entities.

Select the correct option



Instances



Interactions



Relationships



Groups

Question # 2 of 5 ( Start time: 08:16:32 AM, 15 November 2024 )

In enhanced Entity Relationship Diagram, which of the following is known as generalized type?

Select the correct option

- |                                  |                    |
|----------------------------------|--------------------|
| <input type="radio"/>            | Weak entity type   |
| <input checked="" type="radio"/> | Super type         |
| <input type="radio"/>            | Sub type           |
| <input type="radio"/>            | Naming entity type |

Question # 3 of 5 ( Start time: 08:17:09 AM, 15 November 2024 )

If "Person" is a super type entity, then its sub type will be \_\_\_\_\_.

Select the correct option

<input type="radio"/>	Bank
<input type="radio"/>	Vehicle
<input checked="" type="radio"/>	Student
<input type="radio"/>	Exam

Question # 5 of 5 ( Start time: 08:18:23 AM, 15 November 2024 )

Generalization and specialization are associations between different .....

Select the correct option



Columns of table



Databases



Entity types



Rows of table

Question # 3 of 5 ( Start time: 10:15:44 AM, 23 November 2024 )

Table is a \_\_\_\_\_ representation of a relation.

Select the correct option



Two Dimensional



Six Dimensional



Three Dimensional



Four Dimensional

Question # 4 of 5 ( Start time: 10:16:15 AM, 23 November 2024 )

Consider the following two sets:

$$X = \{a, b\}$$

$$Y = \{1, 3, 5\}$$

Then the Cartesian product of A and B (i.e.  $X \times Y$ ) will be equal to:

Select the correct option



$\{(a,1), (a,5), (a,3), (b,5), (b,1), (b,5)\}$



$\{(a,1), (b,1), (a,5), (b,3), (a,5), (b,5)\}$



$\{(a, a), (a,3), (a,1), (b,5), (b,5), (b,3)\}$



$\{(a,1), (a,3), (a,5), (b,1), (b,3), (b,5)\}$

Question # 4 of 5 ( Start time: 08:17:35 AM, 15 November 2024 )

In enhanced Entity Relationship Diagram, \_\_\_\_\_ type of attributes are shown in super type.

Select the correct option

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | Nominal attributes                     |
| <input checked="" type="radio"/> | Specialized attributes                 |
| <input type="radio"/>            | Common attributes                      |
| <input type="radio"/>            | Both common and specialized attributes |

Question # 2 of 5 ( Start time: 10:15:03 AM, 23 November 2024 )

Which of the two data models were used before the relational data model?

Select the correct option



Network and Object Oriented Data Model



Flat Data model and Hierarchical Data Model



Object Oriented and Flat Data Model



Hierarchical and Network Data Model

Question # 1 of 5 ( Start time: 10:13:51 AM, 23 November 2024 )

Consider the following two sets:

STD Name = {Ali, Hassan}

Course Name = {Eng, Math, Phy}

Then the Cartesian product of STD Name and Course Name (i.e. STD Name  $\times$  Course Name) will be equal to:

Select the correct option

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | {{(Ali, Eng), (Hassan, Math), (Ali, Phy), (Hassan, Eng), (Hassan, Math), (Hassan, Phy)}} |
| <input type="radio"/>            | {{(Ali, Eng), (Ali, Math), (Ali, Phy), (Hassan, Phy), (Ali, Math), (Hassan, Eng)}}       |
| <input checked="" type="radio"/> | {{(Ali, Eng), (Ali, Math), (Ali, Phy), (Hassan, Eng), (Hassan, Math), (Hassan, Phy)}}    |
| <input type="radio"/>            | {{(Ali, Math), (Ali, Phy), (Hassan, Phy), (Hassan, Eng), (Hassan, Math), (Hassan, Phy)}} |

Question # 5 of 5 ( Start time: 10:17:03 AM, 23 November 2024 )

Column of the table in the relational database are identified by \_\_\_\_\_.

Select the correct option

<input checked="" type="radio"/>	Name
<input type="radio"/>	Value
<input type="radio"/>	Serial number
<input type="radio"/>	Key

Question # 3 of 5 ( Start time: 05:37:47 PM, 30 November 2024 )

If an entity STUDENT has four attributes named as Roll No., NAME, DATE\_OF\_BIRTH and ADDRESS then which of the following attribute is most suitable for Primary Key?

Select the correct option

<input type="radio"/>	DATE_OF_BIRTH
<input type="radio"/>	ADDRESS
<input checked="" type="radio"/>	Roll No.
<input type="radio"/>	NAME

Question # 4 of 5 ( Start time: 05:38:25 PM, 30 November 2024 )

In the first semester of a degree program in a university, each student has to study five pre-selected courses. The relationship between student and course is:

Select the correct option

- |                                  |                        |
|----------------------------------|------------------------|
| <input type="radio"/>            | Many to one            |
| <input type="radio"/>            | Recursive relationship |
| <input checked="" type="radio"/> | Many to many           |
| <input type="radio"/>            | One to one             |

Question # 5 of 5 ( Start time: 05:40:17 PM, 30 November 2024 )

In many to many relationship, a third table is created for the relationship. It is known as \_\_\_\_\_.

Select the correct option



Regular entity type



Naming entity type



Strong entity type



Associative entity type

Question # 2 of 5 ( Start time: 05:37:02 PM, 30 November 2024 )

A manufacturer manufactures 100 motor bikes in a month. The relationship between manufacturer and motor bikes is:

Select the correct option

<input type="radio"/>	One to one
<input type="radio"/>	Many to many
<input checked="" type="radio"/>	One to many
<input type="radio"/>	Recursive relationship

Question # 1 of 5 ( Start time: 05:36:20 PM, 30 November 2024 )

A specific record of a relation is accessed through:

Select the correct option



Primary Key



Random key



Arbitrary Key



Secondary Key

Question # 2 of 5 ( Start time: 10:55:12 AM, 02 December 2024 )

Which of the following are unary operators?

Select the correct option

<input checked="" type="radio"/>	SELECT and PROJECT
<input type="radio"/>	PROJECT and CARTESIAN
<input type="radio"/>	SELECT and CARTESIAN
<input type="radio"/>	UNION and PROJECT

Question # 3 of 5 ( Start time: 10:55:49 AM, 02 December 2024 )

If relation M has C tuples and relation N has D tuples, then their Cartesian product will have \_\_\_\_\_ tuples.

Select the correct option

<input type="radio"/>	$C \wedge D$
<input type="radio"/>	$C \cup D$
<input checked="" type="radio"/>	$C * D$
<input type="radio"/>	$C \cap D$

Question # 5 of 5 ( Start time: 10:58:06 AM, 02 December 2024 )

Which of the following option is true for union commutative?

Select the correct option



$$A \cup B = A \cap B$$



$$B \cap A = B \cup A$$



$$A \cap B = A \cup B$$



$$A \cup B = B \cup A$$

The **Select** Operation:

The **select operation** is performed to select certain rows or tuples of a table, so it

performs its action on the table horizontally. The tuples are selected through this operation using a predicate or condition. This command works on a single table and takes rows that meet a specified condition, copying them into a new

**Greek letter sigma ( $\sigma$ )** is used to denote the

TABLE. LOWER

Suppose a relation named EMPLOYEE contains attributes Emp\_name, Emp\_designation, Emp\_address and Emp\_salary. Which of the following query will be used to SELECT all those employees whose designation is Admin officer?



Select the correct option

Relo

$\pi$  designation = 'Admin officer' (EMPLOYEE)

$\sigma$  designation = 'Admin officer' (EMPLOYEE)

$\phi$  designation = 'Admin officer'(EMPLOYEE)

$\alpha$  designation = 'Admin officer' (EMPLOYEE)

Click to Save Answer & Move

$$\sigma_{\text{Name}='John'}(\text{Student})$$

This selects only the records where the `Name` is `'John'` from the `Student` relation.

## Explanation of symbols:

- $\sigma$ : This is the selection operator in relational algebra.
- **Condition**: The condition you use to filter records (e.g., `Name = 'John'`).
- **Student**: The relation (table) from which you are selecting the data.

In summary, in relational algebra:

- $\sigma(\text{condition})(\text{relation})$  selects rows from a relation where the specified condition is true.

Suppose a relation named STUDENT contains attributes St\_name, St\_cgpa, cur\_semester and st\_roll. Which of the following query will be used to SELECT all those student records having cgpa greater than 3.0?

Select the correct option

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | $\Omega$ cgpa>3.0 (STUDENT)                                 |
| <input checked="" type="radio"/> | $\in$ cgpa>3.0 (STUDENT) <span style="color: red;">9</span> |
| <input type="radio"/>            | $\in$ cgpa>3.0 (STUDENT)                                    |
| <input type="radio"/>            | $\in$ cgpa>3.0 (STUDENT)                                    |

Question # 1 of 5 ( Start time: 03:11:53 PM, 05 December 2024 )

----- is a step by step process to reduce data redundancy and improve data integrity to build a more efficient and accurate database design.

Select the correct option



Integration



Normalization



Classification



Modeling

Question # 2 of 5 ( Start time: 03:12:38 PM, 05 December 2024 )

A relation is in second normal form if and only if \_\_\_\_\_ and all the non key attributes are fully functionally dependent on the key.

Select the correct option

- |                                  |                                |
|----------------------------------|--------------------------------|
| <input checked="" type="radio"/> | it is in first normal form     |
| <input type="radio"/>            | it is not in first normal form |
| <input type="radio"/>            | it has inconsistent data       |
| <input type="radio"/>            | it has multivalued attributes  |

Question # 3 of 5 ( Start time: 03:13:26 PM, 05 December 2024 )

A table is in the 2<sup>nd</sup> Normal Form if there is no\_\_\_\_\_.

Select the correct option



Partial dependency



Functional dependency



Transitive dependency



Reflexive dependency

Question # 4 of 5 ( Start time: 03:14:13 PM, 05 December 2024 )

The only time we are concerned about 2<sup>nd</sup> Normal Form is when .....

Select the correct option



Primary key contains redundant values



Primary key consists of single attribute



Primary key is composite



Primary key contains non-unique values

Question # 5 of 5 ( Start time: 03:15:07 PM, 05 December 2024 )

2<sup>nd</sup> Normal Form is based on which of the following dependency?

Select the correct option



Full functional dependency



Partial dependency



Transitive dependency



Reflexive dependency

Question # 5 of 10 ( Start time: 01:27:14 PM, 27 November 2024 )

A cell of a table is the intersection of row and a \_\_\_\_\_.



Select the correct option



Degree



Record



Tuple



Column

Question # 10 of 10 ( Start time: 01:30:13 PM, 27 November 2024 )

If a teacher teaches multiple courses in a university then the relationship between teacher and course is:

Select the correct option



One to one



Many to one



One to many



Recursive relationship

Question # 9 of 10 ( Start time: 01:29:39 PM, 27 November 2024 )

In enhanced Entity Relationship Diagram, which of the following is known as generalized type?

Select the correct option

<input checked="" type="radio"/>	Super type
<input type="radio"/>	Naming entity type
<input type="radio"/>	Sub type
<input type="radio"/>	Weak entity type

Question # 7 of 10 ( Start time: 01:28:38 PM, 27 November 2024 )

If you want to add some common attributes in all subtype relationships, then you add it from .....

Select the correct option

<input type="radio"/>	Super type
<input type="radio"/>	Sub type
<input type="radio"/>	Package
<input type="radio"/>	Object