QUESTION: 1

When mapping the physical model, why is it important to consider data types?

Option A :

Data types determine the available storage space for each attribute

Option B :

Data types affect the efficiency of data retrieval operations

Option C :

Data types determine the order of execution for database operations

Option D :

Data types determine the relationships between tables

Correct Answer: A

Explanation/Reference:

Consideration of data types is important in mapping the physical model as it determines the amount of storage space required for each attribute.

QUESTION: 2

Which of the following statements is used to retrieve data from a database?

Option A :

UPDATE

Option B :

SELECT

Option C :

DELETE

Option D :

INSERT

Correct Answer: B

Explanation/Reference:

The SELECT statement is used to retrieve data from a database.

QUESTION: 3

Which keyword is used to retrieve data from specific columns in a SELECT statement?

Option A :

FROM

Option B :

WHERE

Option C :

SELECT

Option D :

GROUP BY

Correct Answer: C

Explanation/Reference:

The SELECT keyword is used to retrieve data from specific columns in a SELECT statement.

QUESTION: 4

What is the purpose of mapping the physical model in database design?

Option A :

To define the relationships between tables

Option B :

To define the data types for each column

Option C :

To optimize database performance

Option D :

To ensure data integrity

	Correct Answer: C

Explanation/Reference:

Mapping the physical model helps optimize database performance by defining physical storage components and access methods.

QUESTION: 5

Which of the following is a valid cardinality notation for a one-to-many relationship in a physical data mod

Option A :

(1, N)

Option B :

(0, 1)

Option C :

(1, 1)

Option D :

(N, M)

	Correct Answer: A

Explanation/Reference:

(1, N) is a valid cardinality notation for a one-to-many relationship in a physical data model.

Which keyword is used to join two or more tables in a SQL statement?

Option A :

JOIN

Option B :

INNER JOIN

Option C :

CROSS JOIN

Option D :

UNION

Correct Answer: A

Explanation/Reference:

The JOIN keyword is used to join two or more tables in a SQL statement.

QUESTION: 7

What is a primary key in a relational database?

Option A :

A constraint that ensures data integrity

Option B :

A unique identifier for each record in a table

Option C :

A field that can have multiple values

Option D :

A foreign key that points to another table

Correct Answer: B

Explanation/Reference:

A primary key is a unique identifier for each record in a relational database table.

QUESTION: 8

What is a foreign key in a relational database?

Option A :

A primary key from another table

Option B :

A key used to establish relationships between tables

Option C :

A key that can have duplicate values

Option D :

A constraint that ensures data integrity

Correct Answer: B

Explanation/Reference:

A foreign key is a key used to establish relationships between tables in a relational database.

QUESTION: 9

Which of the following is NOT a consideration when determining the relationships between tables during mapping of the physical model?

Option A :

Table naming conventions

Option B :

Primary key constraints

Option   C

:

Cardinalit

Option D :

Foreign key constraints

Correct Answer: A

Explanation/Reference:

Table naming conventions are not a consideration when determining the relationships between tables during mapping of the physical model.

QUESTION: 10

What is a database?

Option A :

A program that manages data

Option B :

A network of interconnected computers

Option C :

A collection of related data

Option D :

A physical storage device for data

Correct Answer: C

Explanation/Reference:

A database is a collection of related data that is organized and stored in a structured manner.

QUESTION: 11

What is the role of normalization during the mapping of the physical model?

Option A :

To determine the primary key of each table

Option B :

To improve query performance

Option C :

To eliminate redundancy in the database

Option D :

To ensure data integrity and consistency

	Correct Answer: C

Explanation/Reference:

Normalization plays a role in mapping the physical model by eliminating redundancy in the database.

QUESTION: 12

What is the purpose of the COMMIT statement in SQL?

Option A :

To delete data from a table

Option B :

To make permanent changes to the database

Option C :

To insert data into a table

Option D :

To update data in a table

	Correct Answer: B

Explanation/Reference:

The COMMIT statement in SQL is used to make permanent changes to the database, saving any modifications made within a

transaction.

QUESTION: 13

Which SQL keyword is used to delete data from a table?

Option A :

REMOVE

Option B :

DROP

Option C :

DELETE

Option D :

ERASE

Correct Answer: C

Explanation/Reference:

The DELETE keyword is used to delete data from a table.

QUESTION: 14

What is a primary key?

Option A :

An attribute that can have multiple values

Option B :

A reserved word in SQL

Option C :

A unique identifier for a data entity

Option D :

A foreign key in a related table

Correct Answer: C

Explanation/Reference:

A primary key is a unique identifier for a data entity that ensures each record in a table can be uniquely identified.

QUESTION: 15

What is a primary key in a database?

Option A :

A unique identifier for a specific record in a table

Option B :

A way to encrypt sensitive data in a database

Option C :

A data type used to store numerical values

Option D :

A secondary index used for optimizing query performance

Correct Answer: A

Explanation/Reference:

A primary key is a unique identifier for a specific record in a table.

QUESTION: 16

Which keyword is used to filter results based on a specific condition in a SELECT statement?

Option A :

ORDER BY

Option B :

HAVING

Option C :

GROUP BY

Option D :

WHERE

Correct Answer: D

Explanation/Reference:

The WHERE keyword is used to filter results based on a specific condition in a SELECT statement.

QUESTION: 17

Which of the following is NOT typically included in a physical data model?

Option A :

Data type specifications for attributes

Option B :

Tables and columns

Option C :

Entity-relationship diagrams

Option D :

Primary and foreign key constraints

Correct Answer: C

Explanation/Reference:

Entity-relationship diagrams are typically not included in a physical data model.

QUESTION: 18

What is the purpose of creating constraints in the physical model?

Option A :

To define relationships between tables

Option B :

To optimize database performance

Option C :

To enforce data integrity constraints

Option D :

To specify data types for columns

	Correct Answer: C

Explanation/Reference:

The purpose of creating constraints in the physical model is to enforce data integrity constraints.

QUESTION: 19

What is the purpose of denormalization in the physical model?

Option A :

To define relationships between tables

Option B :

To optimize database performance

Option C :

To reduce data redundancy and inconsistency

Option D :

To enforce data integrity constraints

	Correct Answer: B

Explanation/Reference:

The purpose of denormalization in the physical model is to optimize database performance.

QUESTION: 20

Why is it important to normalize entity relationships in a physical data model?

Option A :

To improve data query performance

Option B :

To eliminate data redundancy

Option C :

To define primary and foreign key constraints

Option D :

To enforce data type specifications

Correct Answer: B

Explanation/Reference:

Normalizing entity relationships in a physical data model helps eliminate data redundancy.

QUESTION: 21

What is the primary step in creating a physical model?

Option A :

Normalizing the database tables

Option B :

Establishing primary and foreign key relationships

Option C :

Identifying entities and their relationships

Option D :

Defining the data types for each attribute

Correct Answer: D

Explanation/Reference:

The primary step in creating a physical model is to define the data types for each attribute.

QUESTION: 22

In a physical model, what is the purpose of denormalization?

Option A :

To optimize the database for efficient querying

Option B :

To reduce data redundancy and improve data integrity

Option C :

To establish relationships between tables

Option D :

To define the table structures and attributes

Correct Answer: A

Explanation/Reference:

Denormalization in a physical model is done to optimize the database for efficient querying.

QUESTION: 23

What is the difference between a logical model and a physical model in database design?

Option A :

A logical model is created by developers, while a physical model is created by database administrators.

Option B :

A logical model focuses on performance optimization, while a physical model focuses on data integrity.

Option C :

A logical model represents the database structure in terms of entities and relationships, while a physical model represents the actual implementation of the database.

Option D :

A logical model is used for small-scale databases, while a physical model is used for large-scale databases.

Correct Answer: C

Explanation/Reference:

A logical model represents the database structure in terms of entities and relationships, while a physical model represents the actual implementation of the database.

QUESTION: 24

What is a database?

Option A :

A programming language used to manipulate data

Option B :

A set of tables used for data storage

Option C :

A collection of data organized in a structured manner

Option D :

A collection of files stored on a computer

Correct Answer: C

Explanation/Reference:

A database is a collection of data organized in a structured manner.

QUESTION: 25

What purpose does mapping fulfill in a physical model?

Option A :

To specify the primary keys for each table

Option B :

To optimize the database for efficient querying

Option C :

To define the table structures and attributes

Option D :

To establish the relationships between tables

	Correct Answer: D

Explanation/Reference:

Mapping in a physical model serves the purpose of establishing the relationships between tables.

QUESTION: 26

What is the purpose of denormalization in a physical model?

Option A :

To establish primary and foreign key relationships

Option B :

To enforce data integrity

Option C :

To improve data retrieval performance

Option D :

To eliminate all redundancy in the database

	Correct Answer: C

Explanation/Reference:

To eliminate all redundancy in the database

QUESTION: 27

Which of the following data modeling techniques allows for the creation of relationships between entities?

Option A :

Document modeling

Option B :

Hierarchical modeling

Option C :

Entity-Attribute-Value (EAV) modeling

Option D :

Relational modeling

Correct Answer: D

Explanation/Reference:

Relational modeling allows for the creation of relationships between entities through the use of tables, keys, and foreign ke constraints.

QUESTION: 28

Which SQL statement is used to create a new table?

Option A :

UPDATE

Option B :

INSERT INTO

Option C :

DELETE FROM

Option D :

CREATE TABLE

Correct Answer: D

Explanation/Reference:

The CREATE TABLE statement is used to create a new table in an SQL database.

QUESTION: 29

What is the purpose of denormalization in a physical database model?

Option A :

To simplify the database structure and reduce maintenance efforts

Option B :

To eliminate redundancy and ensure data consistency

Option C :

To optimize query performance and improve data retrieval speed

Option D :

To define referential integrity constraints and enforce data integrity

Correct Answer: C

Explanation/Reference:

Denormalization in a physical database model is done to optimize query performance and improve data retrieval speed.

QUESTION: 30

Which SQL statement is used to add a new column to an existing table?

Option A :

DELETE FROM

Option B :

UPDATE

Option C :

ALTER TABLE

Option D :

INSERT INTO

Correct Answer: C

Explanation/Reference:

The ALTER TABLE statement is used to add a new column to an existing table in SQL.

QUESTION: 31

In a physical data model, what are foreign keys used for?

Option A :

To represent the logical structure and properties of database objects.

Option B :

To improve performance by storing frequently accessed data together.

Option C :

To define the relationships and links between tables.

Option D :

To specify the attributes and data types for each table.

Correct Answer: C

Explanation/Reference:

Foreign keys in a physical data model are used to define the relationships and links between tables.

QUESTION: 32

What is a relationship in data modeling?

Option A :

An attribute of a table

Option B :

A table in the database

Option C :

A connection between entities

Option D :

A field in a table

Explanation/Reference:

A relationship in data modeling represents the connection between two entities in a database.

QUESTION: 33

What is the role of database indexes in mapping a physical model?

Option A :

To optimize database access and retrieval

Option B :

To define relationships between tables

Option C :

To ensure data integrity

Option D :

To determine the data types for each column

Correct Answer: A

Explanation/Reference:

Database indexes help optimize database access and retrieval when mapping a physical model.

QUESTION: 34

What is the purpose of defining physical storage structures when mapping a physical model?

Option A :

To establish primary and foreign key constraints

Option B :

To determine the data types for each column

Option C :

To define relationships between tables

Option D :

To optimize database access and storage

Correct Answer: D

Explanation/Reference:

Defining physical storage structures helps optimize database access and storage when mapping a physical model.

QUESTION: 35

What is the purpose of a transaction in a database?

Option A :

To execute queries and retrieve data from a database

Option B :

To define the structure and organization of a database

Option C :

To ensure the atomicity, consistency, isolation, and durability of database operations

Option D :

To enforce data integrity and security in a database

Correct Answer: C

Explanation/Reference:

A transaction ensures the atomicity, consistency, isolation, and durability of database operations.