### **Quiz: Database Concepts and Entity-Relationship Diagrams**

#### **Multiple Choice Questions (1-10)**

1. **What is a database?**A) A collection of random data  
   B) An organized collection of structured information  
   C) A type of computer hardware  
   D) A programming language  
   E) A type of software used for gaming
2. **Which of the following is an example of a DBMS?**A) Microsoft Excel  
   B) Netflix  
   C) MySQL  
   D) Google Maps  
   E) Amazon
3. **What is the primary purpose of a DBMS?**A) To create video games  
   B) To store, retrieve, define, and manage data  
   C) To design websites  
   D) To manage hardware components  
   E) To create social media platforms
4. **Which type of database is best suited for handling large-scale, unstructured data?**A) Relational database  
   B) NoSQL database  
   C) Centralized database  
   D) Single-user database  
   E) Analytical database
5. **What is a primary key in a database?**A) A key that links to another table  
   B) A unique identifier for each record in a table  
   C) A key used for encryption  
   D) A key that allows multiple users to access data  
   E) A key used for backup purposes
6. **Which of the following is an example of a one-to-many relationship?**A) A person has one passport  
   B) A customer places many orders  
   C) A student enrolls in many courses, and a course has many students  
   D) A team has many drivers  
   E) A driver participates in many races
7. **What is the purpose of a junction table in a database?**A) To store backup data  
   B) To convert a many-to-many relationship into two one-to-many relationships  
   C) To store metadata  
   D) To improve database performance  
   E) To store user passwords
8. **Which of the following is an example of a derived attribute?**A) Name  
   B) Age (calculated from DateOfBirth)  
   C) Phone Number  
   D) Email Address  
   E) Address
9. **What is the main purpose of data abstraction in database design?**A) To make the database more complex  
   B) To simplify complex data into manageable levels  
   C) To increase data redundancy  
   D) To reduce database security  
   E) To make the database harder to understand
10. **Which of the following is a common data type used in databases?**A) INT  
    B) BOOLEAN  
    C) VARCHAR  
    D) DATE  
    E) All of the above

#### **True or False Questions (11-20)**

1. **A database is an unorganized collection of data.**
2. **A DBMS is used to manage hardware components.**
3. **NoSQL databases are best suited for structured data.**
4. **A primary key must be unique and cannot be NULL.**
5. **A foreign key is used to link two tables together.**
6. **A one-to-one relationship means that one entity can be related to many entities.**
7. **A junction table is used to solve many-to-many relationships.**
8. **Data abstraction is used to make databases more complex.**
9. **A derived attribute is calculated from other attributes.**
10. **Constraints like NOT NULL and UNIQUE are used to enforce data integrity.**

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#### **Matching Questions (21-30)**

Match the following terms with their correct definitions:

1. **Entity**
2. **Relationship**
3. **Primary Key**
4. **Foreign Key**
5. **Data Abstraction**
6. **NoSQL Database**
7. **Relational Database**
8. **Junction Table**
9. **Derived Attribute**
10. **Data Integrity**

**Options:**

J) An association between two entities

E) The process of simplifying complex data into manageable levels

G) A unique identifier for each record in a table

A) A database designed for large-scale, unstructured data

H) A table used to solve many-to-many relationships

C) A link between two tables using a primary key

I) A database organized in tables with rows and columns

D) A real-world object or concept

B) Ensuring accuracy and consistency of data over its lifecycle

F) An attribute calculated from other attributes