This quiz has been regraded; your score was not affected.

Take-home quiz: Database Design

- Due Nov 5 at 11:59pm
- Points 10
- Questions 10
- Available Oct 29 at 12am - Nov 5 at 11:59pm
- Time Limit None
- Allowed Attempts 3

This quiz was locked Nov 5 at 11:59pm.

Attempt History

	Attempt	Time	Score	Regraded
KEPT	Attempt 3	1 minute	10 out of 10	10 out of 10
LATEST	Attempt 3	1 minute	10 out of 10	10 out of 10
	Attempt 2	10 minutes	8 out of 10	9 out of 10
	Attempt 1	3 minutes	9 out of 10	10 out of 10

Score for this attempt: 10 out of 10
Submitted Nov 4 at 8:54pm
This attempt took 1 minute.

Question 1
1 / 1 pts
Which type of attribute in E/R diagrams can be further broken down into more basic parts?

- Multi-valued
- Simple
- Derived

Correct!

- Composite

Question 2
1 / 1 pts
What does 'total participation' of an entity in a relationship mean in E/R modeling?

- The entity does not participate in the relationship at all.
- Only some instances of the entity participate in the relationship.

Correct!

- Each instance of the entity is involved in at least one relationship instance.
- The entity is optional in the relationship.

Question 3

1 / 1 pts

What does the 'min, max' notation in a relationship in an ER diagram indicate?

- The minimum and maximum number of attributes in an entity.
- The minimum and maximum values for an attribute.

Correct!

- The minimum and maximum number of times an entity can participate in a relationship.
- The range of values an attribute can take.

Question 4

Original Score: 1 / 1 pts Regraded Score: 1 / 1 pts

This question has been regraded.

A Weak Entity Type is characterized by what?

You Answered

- Having its own primary key.

Correct Answer

- Having no key attributes.
- Being entirely independent.
- Having a composite attribute.

Question 5

1 / 1 pts

In a university database, a 'Student' entity includes a relationship where a student can be both a mentor and a mentee in a peer mentoring program. This is an example of a recursive relationship. Which of the following best represents how this relationship is modeled in an ER diagram, and why?

- One entity for students without any recursive relationship, as students cannot have multiple roles.
- Two separate entities for mentor and mentee because they are distinct roles.

Correct!

- One entity with a relationship line looping back to itself, with role labels indicating "mentor" and "mentee" to denote the two capacities.
- Two entities connected by a non-recursive relationship, as mentor and mentee roles are usually non-recursive.

Question 6

1 / 1 pts

A table is in 3NF if it is in 2NF and:

Correct!

- (●) It has no transitive dependencies.
- ( ) It has a composite primary key.
- ( ) All its columns contain only numeric values.
- ( ) It includes foreign key references.

Question 7

1 / 1 pts

In the context of normalization, what does functional dependency mean?

- ( ) A column must contain only numeric data.
- ( ) Data must be functionally accessible in a database.
- ( ) A foreign key must match a primary key in another table.

Correct!

- (●) A relationship between two sets of attributes in a table.

Question 8

1 / 1 pts

In a university database, if each student can enroll in multiple courses, but each course can be enrolled in by many students, this relationship would be best described as:

- ( ) Many-to-One (N:1)

Correct!

- (●) Many-to-Many (M:N)
- ( ) One-to-One (1:1)
- ( ) One-to-Many (1:N)

Question 9

1 / 1 pts

A student database table contains a column 'Courses' which holds multiple course names for each student. This design violates which normal form?

- ( ) Third Normal Form (3NF)
- ( ) Second Normal Form (2NF)

Correct!

- (●) First Normal Form (1NF)
- ( ) Boyce-Codd Normal Form (BCNF)

Question 10

1 / 1 pts

In a hospital database, if the 'Patient' table includes columns for 'Patient_ID', 'Name', and 'Allergies', and the 'Allergies' column can hold multiple values, this table fails to meet:

- Second Normal Form (2NF)
- Third Normal Form (3NF)
- Boyce-Codd Normal Form (BCNF)

Correct!

- First Normal Form (1NF)

Quiz Score: 10 out of 10