

In-class Exercise 3 - Summer 2022

Due Jul 26 at 11:59pm **Points** 30 **Questions** 30
Available until Jul 26 at 11:59pm **Time Limit** 90 Minutes

This quiz was locked Jul 26 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	46 minutes	29 out of 30

Score for this quiz: **29** out of 30

Submitted Jul 26 at 12:22pm

This attempt took 46 minutes.

Question 1

1 / 1 pts

Which of the following cardinality ratios can be illustrated using ER diagram?

- ☐ 1:1, 1:N and N:1
- ☐ 1:1, 1:N
- ☒ All possible ratios can be illustrated
- ☐ 1:1

Correct!

Question 2

1 / 1 pts

What type of attribute should we consider elevating to an independent entity type when designing ER model?

Correct!

- ☐ Single-valued Attributes
- ☒ Attributes that show up in various entity types
- ☐ Multivalued Attributes
- ☐ Derived Attributes

Question 3

1 / 1 pts

Which of the followings is not an essential part of the ER model?

Correct!

- ☐ Entities
- ☒ Tuples
- ☐ Relationships
- ☐ Attributes

Question 4

1 / 1 pts

Answer Question 4-5 using the according to the following diagram:

What is the maximum degree of relations that exists in the diagram?

Correct!☐ 6☐ 1☐ 9☒ 2**Question 5****0 / 1 pts**

How many recursive relations are there in the diagram?

☐ 6☐ None☒ 5☐ 1**Correct Answer****You Answered****Question 6****1 / 1 pts**

If a Relationship Type involves 3 entity types and each of them contains 6 entities, what is the degree of it?

☐ 18

Correct!☐ 6☐ 1☒ 3**Question 7****1 / 1 pts**

Which of the following is NOT a good practice of naming components in the ER-model?

Correct!☒ Use nouns for relationship type names☐

Choose names that convey meanings attached to different constructs in schema

☐

Choose binary relationship names to make ER diagram readable from left to right and from top to bottom

☐

Use nouns for entity type names

Question 8**1 / 1 pts**

Which of the following concepts only exist in EER but not in ER?

☐

Derived Attribute

Correct!

- ☒ Subclasses
- ☐ Multivalued Attribute
- ☐ Weak Entity Types

Question 9**1 / 1 pts**

Consider the entity type "Planets", "Solar System" and the relationship type "Is in". Judging from these names, the cardinality ratio of "Is in" is most probably

- ☐ 1:N
- ☐ N:M
- ☐ 1:1
- ☒ N:1

Correct!**Question 10****1 / 1 pts**

The process of defining a set of subclasses is called _____

- ☒ Specialization
- ☐ Refactorization
- ☐ Division

Correct!

☐ Morphing

Question 11

1 / 1 pts

Which of the following concepts in the ER model most resembles that of a table in database?

☐ Attribute

☒ Entity Type

☐ Intersect

☐ Value Set

☐ Entity

Correct!

Question 12

1 / 1 pts

Relationships are represented using _____ in ER Diagrams.

☐ Rectangles

☐ Circles

☒ Diamonds

☐ Triangles

Correct!

Question 13**1 / 1 pts**

A Relationship Type in ER model must involve at least two entity types.

Correct!☒ True☐ False**Question 14****1 / 1 pts**

Which of the followings is NOT the goal of EER model?

Correct!☒ Provide better optimization for SQL☐ Reflect the data properties and constraints more precisely☐ Allow designs for more accurate database schemas☐ Handle more complex requirements than traditional applications**Question 15****1 / 1 pts**

Which of the following is NOT a unique feature of EER?

☐ Relationship inheritance☐ Union type

Correct!

- ☒ Participation constraint
- ☐ Specialization

Question 16**1 / 1 pts**

If a Relationship Type involves 2 entity types and contains 5 relationship instances, what is the degree of it?

- ☐ 1
- ☒ 2
- ☐ 7
- ☐ 10

Correct!**Question 17****1 / 1 pts**

If a relationship is recursive, how many entity types are involved in it?

- ☐ 0
- ☒ 1
- ☐ Not enough information to judge
- ☐ 2

Correct!

Question 18**1 / 1 pts**

Generally speaking, that is without further specific constraint/schema provided, a subclass can have multiple superclasses in the EER model.

Correct!☒ True☐ False**Question 19****1 / 1 pts**

Which of the following is not a type of Participation Constraint?

Correct!☐ Partial☒ Derived☐ Total**Question 20****1 / 1 pts**

A single entity can be attached to multiple role names in different relationships.

Correct!☒ True

☐ False

Question 21

1 / 1 pts

The process of defining a superclass over a set of subclasses is called _____.

☐ FalseSublimation

☐ Abstraction

☒ Generalization

☐ Extraction

Correct!

Question 22

1 / 1 pts

Which of the following can be a multivalued attribute?

☐ All of them can

☒ Phone_number

☐ Date_of_birth

☐ SSN

Correct!

Question 23**1 / 1 pts**

Attributes that show up in various entity types.

Correct!☐ Single-valued Attributes☒ Derived Attributes☐ Multivalued Attributes**Question 24****1 / 1 pts**

Cardinality ratios of relationships can be represented in ER diagram.

Correct!☒ True☐ False**Question 25****1 / 1 pts**

Consider the entity set "Students", "Courses" and the binary relationship "Takes" defined from "Students" to "Courses". What is cardinality ratio of "Takes"?

☐ N:1☐ 1:N

Correct!☐ 1:1☒ N:M**Question 26****1 / 1 pts**

Entity is a _____

Correct!☒ Thing in real world☐ Model of relation☐ Object of relation☐ Present working model**Question 27****1 / 1 pts**

Answer question Q27-Q29 based on the following diagram.

How many direct subclasses does "PERSON" have?

☐ 1☐ 7☐ 5

Correct!☒ 3**Question 28****1 / 1 pts**

How many direct superclasses does "STUDENT_ASSISTANT" have?

☐ 1☐ 3☐ 0**Correct!**☒ 2**Question 29****1 / 1 pts**

How many attributes does "RESEARCH_ASSISTANT" have?

☐ 3☐ 1**Correct!**☒ 9☐ 4**Question 30****1 / 1 pts**

Which process is mainly involved in the Bottom-up conceptual synthesis?

- ☐ None of them
- ☐ Specialization
- ☐ Both of them equally
- ☒ Generalization

Correct!

Quiz Score: **29** out of 30