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Test: Mid Term Exam - Database Design

Review your answers, feedback, and question scores below. An asterisk (*) indicates a correct answer.

Section 1 Lesson 1

(Answer all questions in this section)

1. Once you have learned how to write programs and build systems, you no longer need any input or involvement from any users, as you are perfectly capable of delivering the systems the business needs and wants. Mark for Review
(1) Points

True. All that perfect systems need are correct programs.

False. Business requirements can and will change. For instance new legal requirements may arise. (*)

True. All users do is delay systems delivery with their forever changing minds and new requirements.

True. Users never know what they want anyway, so building systems are best left to the professionals.

Section 1 Lesson 2

(Answer all questions in this section)

2. Consider your school library. It will have a database with transaction details of which student borrows which books. Is a record of one student borrowing one book Data or Information? Mark for Review
(1) Points

Data (*)

Information

Both

Neither

Correct

Correct

3. Consider your school library. It will have a database with transaction details of which student borrows which books. Is details of the total number of books out on loan in one given month Data or Information? Mark for Review (1) Points

Data

Information (*)

Both

Neither

Correct

Correct

Section 1 Lesson 3

(Answer all questions in this section)

4. The first step in system development is to document the requirements. Why? Mark for Review (1) Points

Wrong. A blueprint for the database design is not needed. We can just start coding straight away.

It clarifies what a business wants to accomplish, and provides measures for deciding if the system delivers all that is required. (*)

It allows application development to be conducted without having to consider database design.

It keeps businesses honest.

Correct

Correct

Section 1 Lesson 4

(Answer all questions in this section)

5. Businesses involved in any of the following typically use databases to handle their data: Finance, Logistics, Commerce, Procurement and Distribution? True or False? Mark for Review
(1) Points

True (*)

False

Correct

Correct

6. Oracle Database Software provides which of the following functionality? (Choose two) Mark for Review
(1) Points

(Choose all correct answers)

Graphical User Interface (*)

Internet Browser

Server (*)

Operating Systems

Incorrect

Incorrect. Refer to Section 1.

Section 2 Lesson 2

(Answer all questions in this section)

7. All of the following could be attributes of an ENTITY called PERSON except one. Select the incorrect one: [Mark for Review](#)
(1) Points

Haircolor

Weight

Gender

Natacha Hansen (*)

Correct

Correct

8. An entity can have many Unique Identifiers. True or False?
[Mark for Review](#)
(1) Points

True (*)

False

Correct

Correct

9. Relationship names are usually verbs. True or False? Mark
for Review
(1) Points

True (*)

False

Correct

Correct

10. All of the following would be instances of the entity ANIMAL SPECIES except which? Mark for Review
(1) Points

Dog

Bird

Elephant

Leaf (*)

Correct

Correct

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Section 2 Lesson 2
(Answer all questions in this section)

11. A/an _____ is a picture of all the information that will form the basis for the finished system. Mark for Review
(1) Points

ERD (*)

Process

Table

Attribute

Correct

Correct

12. Which of the following entities most likely contains valid attributes? (Choose two) Mark for Review
(1) Points

(Choose all correct answers)

Entity: Home. Attributes: Number of Bedrooms, Owner, Address, Date Built (*)

Entity: Pet. Attributes: Name, Birthdate, Owner (*)

Entity: Car. Attributes: Owner Occupation, Owner Salary, Speed

Entity: Mother. Attributes: Name, Birthdate, Occupation, Salary

Correct

Correct

13. Which of the following statements about relationships are true? (Choose Two) Mark for Review

(1) Points

(Choose all correct answers)

They become Foreign Keys in the database. (*)

They Must be Mandatory to be created in the database.

They can be either mandatory or optional. (*)

They must exist between two different Entities.

Incorrect

Incorrect. Refer to Section 2

Section 3 Lesson 1

(Answer all questions in this section)

14.

Relationship Degree/Cardinality is important. True or False?

Mark for Review

(1) Points

True (*)

False

Correct

Correct

15.

Relationship Names are optional. True or False?

Mark for Review

(1) Points

True

False (*)

Correct

Correct

Section 3 Lesson 2

(Answer all questions in this section)

16. The many end of a Relationship is called: Mark for Review
(1) Points

Gulls Foot

Pigs Ear

Crows Ear

Crows Foot (*)

Correct

Correct

17. The single end of a Relationship is called: Mark for Review
(1) Points

Single Toe (*)

Big Toe

Single Foot

Crows Foot

Incorrect

Incorrect. Refer to Section 3.

Section 3 Lesson 3

(Answer all questions in this section)

18. Matrix Diagrams are mandatory when doing data modelling. True or False? Mark for Review (1) Points

True

False (*)

Correct

Correct

Section 4 Lesson 1

(Answer all questions in this section)

19. You can only create relationships to a Supertype, not to a Subtype. True or False? Mark for Review (1) Points

True

False (*)

Correct

Correct

20. A Supertype can have only one subtype. True or False? Mark for Review (1) Points

True

False (*)

Correct

Correct

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Section 4 Lesson 1

(Answer all questions in this section)

21. All instances of the supertype must be an instance of one of the subtypes. True or False? [Mark for Review](#)
(1) Points

True (*)

False

Correct

Correct

22. A supertype can only have two subtypes and no more. True or False? [Mark for Review](#)
(1) Points

True

False (*)

Correct

Correct

23. Which of the following are suitable Entity names? (Choose Two)

Mark for Review

(1) Points

(Choose all correct answers)

DOGS

ANIMAL (*)

ANIMALS

DOG (*)

Correct

Correct

Section 4 Lesson 2

(Answer all questions in this section)

24. A business rule such as "We only ship goods after customers have completely paid any outstanding balances on their account" is best enforced by: Mark for Review

(1) Points

Making the payment attribute null.

Making the payment attribute optional.

We need to trust our customers, and we know they will pay some day.

Hiring a programmer to create additional programming code to verify no goods are shipped until the account has been settled in full. (*)

Correct

Correct

25. "Only teachers may supervise exams" is an example of which of the following?
(1) Points

Mark for Review

A procedural business rule (*)

An attribute that should be stored on the PERSON entity

A structural business rule

An attribute that is not be inherited from the PERSON supertype and is unique to the TEACHER subtype

Correct

Correct

26. How would you model a business rule that states that girls and boys may not attend classes together?
(1) Points

Mark for Review

Use a supertype

Use two subtypes with relationships from class to student gender (*)

Make the attribute Gender mandatory

You cannot model this. You need to document it.

Correct

Correct

27. Why is it important to identify and document structural rules?

Mark for Review

(1) Points

Ensures we know what data to store and how that data works together. (*)

Ensures nothing. There is no benefits to be gained from documenting your Structural Business Rules. We need to concentrate on the Procedural Business Rules only.

Ensures we know what Information to store and how that Information works together.

All of the Above.

Incorrect

Incorrect. Refer to Section 4

Section 5 Lesson 1

(Answer all questions in this section)

28. Transferable relationships can only be mandatory, not optional.

True or False? Mark for Review

(1) Points

True

False (*)

Correct

Correct

Section 5 Lesson 2

(Answer all questions in this section)

29. Which of the following pairs of entities is most likely to be modeled as a M:M relationship? [Mark for Review](#)
(1) Points

CAR and WHEEL

TREE and BRANCH

PERSON and FINGERPRINT

TEACHER and SUBJECT AREA (*)

Incorrect

Incorrect. Refer to Section 5.

30. If two entities have two relationships between them, these relationships can be either _____ or _____? [Mark for Review](#)
(1) Points

Redundant or Required (*)

Replicated or Required

Resourced and Really Good

Redundant and Replicated

Correct

Correct

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Section 5 Lesson 2

(Answer all questions in this section)

31. Relationships can be Redundant. True or False? Mark for Review
(1) Points

True (*)

False

Correct Correct

32. Many to many relationships must be left in the Model. It is important to have them documented as M-M. True or False? Mark for Review
(1) Points

True

False (*)

Correct Correct

Section 6 Lesson 1

(Answer all questions in this section)

33. The first UID for an entity is called the Primary UID, the second is called Secondary UID and so on. Mark for Review
(1) Points

Yes, this is the way UID's are named. (*)

No, it is not possible to have more than one UID for an Entity.

Yes, but then it stops. No entities can have more than two UID's.

No, each Entity can only have one UID, the secondary one.

Correct

Correct

Section 6 Lesson 2

(Answer all questions in this section)

34. An entity without repeated values is said to be on 1st Normal Form. True or False? Mark for Review
(1) Points

True (*)

False

Correct

Correct

Section 6 Lesson 3

(Answer all questions in this section)

35. Would it be a good idea to model age as an attribute of STUDENT Mark for Review
(1) Points

Yes

Maybe it could stop us having to calculate someones age every time we need it

Sometimes

No - it breaks the Normalization rules (*)

Incorrect

Incorrect. Refer to Section 6

Section 7 Lesson 1

(Answer all questions in this section)

36. Consider the entity ADDRESS with the attributes:

ADDRESS:

House Number

* Street

* Town

* City

* Year of Build

o City Population

This entity is NOT in 3rd Normal Form ("no non-UID attribute can be dependent on another non-UID attribute). True or False?

Mark for Review

(1) Points

True (*)

False

Correct

Correct

37. An arc can be modelled as Supertype and Subtypes. True or False?

Mark for Review

(1) Points

True (*)

False

Incorrect

Incorrect. Refer to Section 7

Review
(1) Points

38. No parts of a UID are mandatory. True or False? Mark for

True

False (*)

Correct

Correct

39. Arcs are used to visually represent _____ between two or more relationships in an ERD. Mark for Review
(1) Points

Sameness

Differencies

Exclusivity (*)

An Arc is what Noah sailed on with all the animals.

Correct

Correct

40. Which of the following is NOT a relationship type? Mark for Review
(1) Points

Some to None (*)

One to One

One to Many

Many to Many

Correct Correct

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Section 7 Lesson 2
(Answer all questions in this section)

41. A recursive relationship must Mandatory at both ends. True or False? Mark for Review
(1) Points

True

False (*)

Incorrect Incorrect. Refer to Section 7

Section 7 Lesson 3
(Answer all questions in this section)

42. Modeling historical data can produce a unique identifier that always excludes dates. True or False? Mark for Review
(1) Points

True

False (*)

Correct

Correct

Section 8 Lesson 1
(Answer all questions in this section)

43. Consultants often use their experience in ensuring projects stay on track and delivers within the timescales set out for the project. True or False? Mark for Review
(1) Points

True (*)

False

Correct

Correct

Section 8 Lesson 2
(Answer all questions in this section)

44. Your apperance at a presentation is important. You need to look smart and presentable. True or False?Mark for Review
(1) Points

True (*)

False

Correct

Correct

Section 10 Lesson 1

(Answer all questions in this section)

45. If a system includes the concept of time, and it stores Start Dates, then End Dates becomes Mandatory. For each Start Date attribute you create, you MUST create an End Date attribute and it must be mandatory. True or False? Mark for Review
(1) Points

True

False (*)

Incorrect

Incorrect. Refer to Section 10

46. Which of the following would be a logical constraint when modeling time for a City entity? Mark for Review
(1) Points

People are born in the city and people die in the city.

Cities may change their name and/or which country they are placed in, if the borders of a country change. (*)

If you are doing a system for any French City, you would need security clearance

You need a constant record of cities because they are still cities, even if leadership changes over time, e.g. they get a new Mayor

Correct

Correct

47. There is only one way to model time in a Data Model. True or False? Mark for Review
(1) Points

True

False (*)

Correct

Correct

48. All systems must have an entity called WEEK with a holiday attribute, so you know when to give your employees a holiday. True or False? Mark for Review
(1) Points

True

False (*)

Correct

Correct

Section 10 Lesson 2
(Answer all questions in this section)

49. Which of the following is a logical constraint, that could result from considering how time impacts data storage? Mark for Review
(1) Points

An ASSIGNMENT may only refer to an EMPLOYEE with a valid employee record at the Start Date of the ASSIGNMENT. (*)

EMPLOYEE periods can overlap causing the database to crash.

End Date must be before the Start Date.

Dates must be stored with Time.

Correct

Correct

50. Why would you want to model a time component when designing a system that lets people buy shares via the Internet? (Choose Two) Mark for Review
(1) Points

(Choose all correct answers)

This would only be required in the US to allow the New York Stock Exchange to be notified of this information.

To allow the sales people to determine when the shares were bought and therefore at what price. (*)

You would not want to model this, it is not important.

The price of shares fluctuates and for determining price, you need to know the time of purchase (*)

Correct

Correct

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