A given relation is known to be in third normal form. Select the statement which can be inferred from this:

Select one:

a. All attributes contribute to the primary key

b. Each non-key attribute determines the primary key

c. Each non-key attribute is determined by the primary key

d. Every determinant is a candidate key

e. The relation is not in fourth normal form.

**Question 2**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

A lack of normalisation can lead to which one of the following problems

Select one:

a. Lost Updates

b. Deletion of data

c. Insertion problems

Inserting data into an unnormalised system can result in the same data being entered in multiple tables. This gives rise to the possibility of data for the same object being entered "slightly differently" in more than one table. For instance, if a person's surname appeared in more than one table, and that person then changed his name, this change would have to be done in all tables where the name appeared. Ensuring this can be difficult, and so it is better to avoid such duplicated data by normalising the database design.

d. Deadlock conditions

**Question 3**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

To transform a relation from second normal form to third normal form we must remove which one of the following?

Select one:

a. All partial-key dependencies

b. All inverse partial-key dependencies

c. All repeating groups

d. All transitive dependencies

**Question 4**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

An athletics meeting involves several competitors who participate in a number of events. The database is intended to record who is to take part in which event and to record the outcome of each event. As results become available the winner attribute will be updated with the cid of the appropriate competitor.

Competitor(cid, name, nationality) Event(eid, description, winner) Competes(cid, eid)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **Competitor** | | | | **cid** | **name** | **nationality** | | 01 | Pat | British | | 02 | Hilary | British | | 03 | Sven | Swedish | | 04 | Pierre | French | | |  |  |  | | --- | --- | --- | | **Event** | | | | **eid** | **description** | **winner** | | 01 | running |  | | 02 | jumping |  | | 03 | throwing |  | | |  |  | | --- | --- | | **Competes** | | | **cid** | **eid** | | 01 | 01 | | 02 | 01 | | 03 | 02 | | 04 | 02 | | 04 | 03 | |

Select one:

a. A numeric attribute should be added to the Competes table

b. A numeric attribute should be added to the Event table

c. A numeric attribute should be added to the Competitor table

d. Three numeric attribute should be added to the Competitor table

e. Two numeric attributes should be added to the Competitor table

**Question 5**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The rule that prohibits transitive dependencies is

Select one:

a. first normal form

b. second normal form

c. third normal form

d. BCNF

**Question 6**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Most RDB designers will accept that in order to deal with the complexities of "real life" transactions, a design needs to reach

Select one:

a. second normal form

b. first normal form

c. third normal form

d. the standard of a flat file

**Question 7**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The rule that specifies that there should be no repeating fields and that fields should be atomic is

Select one:

a. first normal form

b. second normal form

c. third normal form

d. None of the above

**Question 8**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Consider the table (Relation) CARS

|  |  |  |  |
| --- | --- | --- | --- |
| REGNO  (Key Field) | MODEL | COLOUR | OID |

The key is REGNO (car registration number), OID is a foreign key that identifies the car's owner.  
  
This table is in

Select one:

a. first normal form

b. second normal form

c. third normal form

d. None of the above

**Question 9**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

It is impossible to represent which of the following in a relational schema?

Select one:

a. any mandatory participation constraint in a many-to-one relationship

b. any mandatory participation constraint in a many-to-many relationship

c. a one-to-one relationship

d. a many-to-one relationship

e. a ternary relationship

**Question 10**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

We know that table

Q has only one candidate key. Q is in 2NF.

Select one:

True

False

**Question 11**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Consider the table STUDREC

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SREF  (Key Field) | INIT | SNAME | DOB | GENDER | RES | KIDS | HTOWN | DISTANCE |

Which field (attribute) is transitively dependent on the key (SREF)

Select one:

a. RES (is the student residential)

b. KIDS (number of children)

c. DISTANCE (how far from The Northern College does the student live)

d. HTOWN (the student's home town)

**Question 12**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

An atomic field is

Select one:

a. a single valued field

b. a key field

c. a numerical field

d. a key that contains only a single field

**Question 13**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Consider the table (Relation) CLASSES

|  |  |  |  |
| --- | --- | --- | --- |
| CLASSREF  (Key Field) | CLASS\_TITLE | TUTOR\_ID | ROOM\_ID |

Why is the class title not suitable as a key field?

Select one:

a. The key field needs to be a unique number

b. The key field has to be an extra field to the actual data that we store about classes

c. It is likely that as time passes, we'll need to add more classes with different names to our CLASSES table.

d. It is possible to have more than one class with the same name (e.g. a database design class could run on Monday for one group and on Tuesday for another group)

**Question 14**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

One of the tasks of a relational database management system (RDBMS) is to ensure that relational schemas are in at least 3NF.

Select one:

True

False

**Question 15**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Which of the following is generally a benefit of normalisation?

Select one:

a. Performance is improved

b. Insertion anomalies are avoided

c. Selection anomalies are avoided

d. Number of tables is reduced