

Testpassport**Q&A**



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Exam : **1D0-541**

Title : CIW v5 Database Design
Specialist

Version : V8.02

1.Consider the following relations shown in the exhibit. Which of the following SQL statements would return the Customers2 relation from the Customers relation?

| Cust_No | Cust_Name | Satisfaction_Rate | Sales_Office | Sales_Rep_No |
|---------|-------------|-------------------|--------------|--------------|
| 1011 | MicroWidget | 75 | Atlanta | 1350 |
| 1012 | MacroWidget | 90 | New York | 7403 |
| 1013 | Xyz Corp | 78 | Los Angeles | 2457 |
| 1014 | DayCo | 95 | Atlanta | 1350 |
| 1015 | DigiTech | 85 | Chicago | 3303 |
| 1016 | DataTech | 92 | Los Angeles | 2457 |
| 1017 | UniSort | 81 | New York | 7403 |

Customers Relation

| | | | | |
|------|----------|----|----------|------|
| 1015 | DigiTech | 85 | Chicago | 3303 |
| 1017 | UniSort | 81 | New York | 7403 |

Customers2 Relation

- A.SELECT * FROM Customers WHERE Satisfaction_Rate <= 80 OR Satisfaction_Rate >= 90;
- B.SELECT * FROM Customers WHERE Satisfaction_Rate IN (80 AND 90);
- C.SELECT * FROM Customers WHERE Satisfaction_Rate >= 80 AND Satisfaction_Rate <= 89;
- D.SELECT * FROM Customers WHERE Satisfaction_Rate BETWEEN (80, 90);

Answer:C

2.What is the highest normal form of the relation(s) shown in the exhibit?

| Registration_ID | Student_ID | Course_Code | First_Name | Last_Name |
|-----------------|------------|-------------|------------|-----------|
| 1001 | S320 | M3455 | Teri | Chan |
| 1002 | S255 | M3455 | Carlos | Trujillo |
| 1003 | S511 | A4343 | Helen | Yang |
| 1004 | S812 | S4511 | Robert | Cray |
| 1005 | S320 | A4343 | Teri | Chan |
| 1006 | S255 | M4422 | Carlos | Trujillo |
| 1007 | S511 | M4433 | Helen | Yang |
| 1008 | S812 | S2212 | Robert | Cray |

Registration Relation

- A.Second normal form
- B.First normal form
- C.Boyce-Codd normal form
- D.Third normal form

Answer:A

3.Which pair of relational algebraic operations requires union compatibility?

- A.Projection and Cartesian product
- B.Selection and projection
- C.Intersection and difference

D.Cartesian product and intersection

Answer:C

4.Consider the Recreation relation in the exhibit. A data operation that changes one of the tuples for Student_ID 1003 must be performed. It is necessary to change one of the activities from swimming to tennis. The Student_ID and Activity attributes make up the primary key for the Recreation relation. All related information must be altered, as well. Which SQL statement or statements would best accomplish this?

| Student_ID | Activity | Activity_Fee |
|------------|-------------|--------------|
| 1001 | Bowling | 50 |
| 1001 | Racquetball | 75 |
| 1002 | Tennis | 100 |
| 1003 | Handball | 35 |
| 1003 | Swimming | 40 |
| 1004 | Bowling | 50 |
| 1004 | Fencing | 125 |

Recreation Relation

- A.UPDATE Recreation SET Activity, Activity_Fee ('Tennis', 100) WHERE Student_ID = 1003;
 B.UPDATE TABLE Recreation SET ACTIVITY = 'Tennis', Activity_Fee = 100 WHERE Student_ID = 1003 AND Activity = Swimming;
 C.UPDATE Recreation SET Activity = 'Tennis', Activity_Fee = 100 WHERE Student_ID = 1003 AND Activity = 'Swimming';
 D.DELETE Activity FROM Recreation WHERE Student_ID = 1003; INSERT INTO Recreation VALUES (1003, 'Tennis', 100);

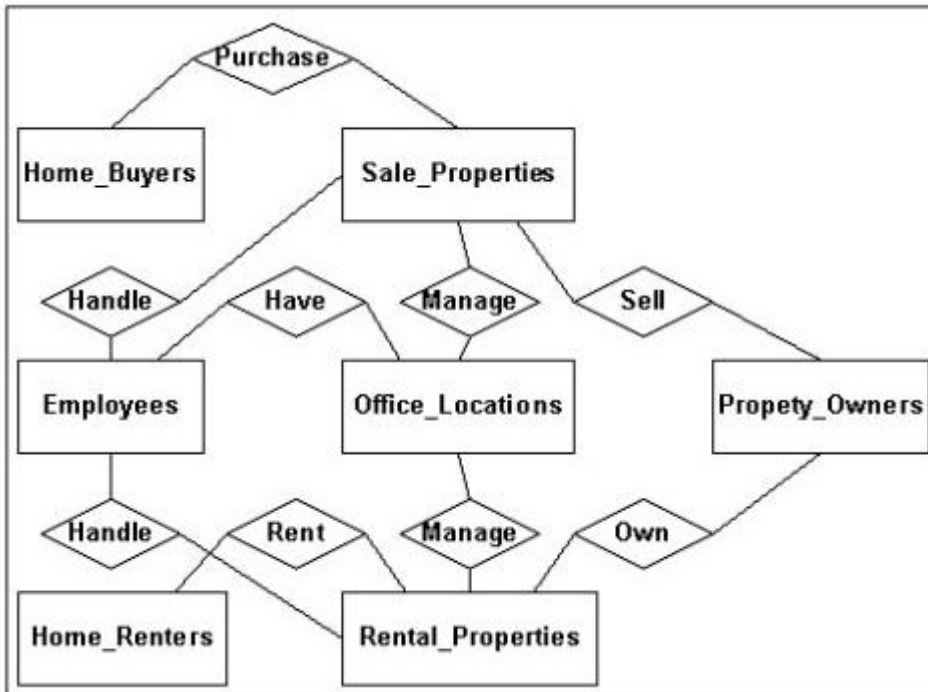
Answer:C

5.Consider the following four database design activities: 1 - Design user views. 2 - Select a DBMS. 3 - Apply normalization. 4 - Determine entities. Which choice shows the correct ordering of these activities, from first to last, by assigned numbers?

- A.1, 2, 3, 4
 B.3, 4, 1, 2
 C.4, 1, 3, 2
 D.4, 2, 3, 1

Answer:D

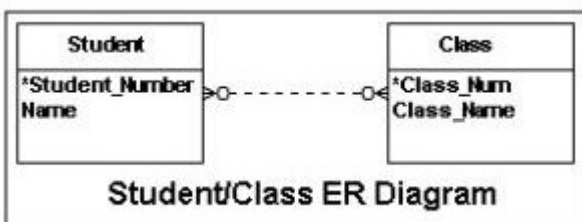
6.Your enterprise is involved in planning a database project. The exhibit shows the result of one phase of the database design life cycle. Which term best describes the diagram shown in the exhibit?



- A. Information Engineering (IE) data model
- B. Corporate data model
- C. Database requirements model
- D. Entity Relation Data (ERD) model

Answer: B

7. Consider the entity-relation (ER) diagram shown in the exhibit. When the logical database design phase is completed, which of the following is a valid DDL description of the base relations for the ER diagram?



- A. STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20 NOT NULL) Primary Key Student_Number CLASS(Class_Num: integer NOT NULL Class_Name: integer NOT NULL) Primary Key Class_Num
- B. STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20 NOT NULL) Primary Key Student_Number CLASS(Class_Num: integer NOT NULL Class_Name: integer NOT NULL) Primary Key Class_Num Foreign Key Class_Num References STUDENT
- C. STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20 NOT NULL) Primary Key Student_Number STU_CLASS(Student_Number: integer NOT NULL Class_Num: integer NOT NULL) Primary Key Student_Number CLASS(Class_Num: integer NOT NULL Class_Name: integer NOT NULL) Primary Key Class_Num
- D. STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20 NOT NULL) Primary Key Student_Number STU_CLASS(Student_Number: integer NOT NULL Class_Num:

integer NOT NULL) Primary Key Student_Number CLASS(Class_Num: integer NOT NULL Class_Name: integer NOT NULL) Primary Key Class_Num

Answer:D

8.The exhibit shows a table called Student Relation that tracks all information related to a students courses, professors and sites. What would be the consequence of removing all records for a student with the ID 1311?

| ID | Student | Course_ID | Professor | Dept | Site_ID | Time |
|------|---------|-----------|-----------|-------|---------|-------|
| 1211 | Jones | 5001 | Yee | Math | 220 | 3:00 |
| 1211 | Jones | 7001 | Gregory | Psych | 320 | 1:00 |
| 1311 | O'Brien | 5001 | Yee | Math | 220 | 3:00 |
| 1311 | O'Brien | 7001 | Gregory | Psych | 320 | 1:00 |
| 1311 | O'Brien | 8001 | Rodriguez | Chem | 420 | 10:00 |

Student Relation

- A.Only an update anomaly would occur.
- B.An insertion anomaly would occur.
- C.A deletion anomaly would occur.
- D.An update anomaly and a deletion anomaly would occur.

Answer:C

9.Which of the following occurs in a relation when records are added or removed?

- A.The number of domains changes.
- B.The attributes in the table change.
- C.The cardinality of the relation is fixed but the degree varies.
- D.The degree of the relation is fixed but the cardinality varies.

Answer:D

10.Which of the following describes two desirable characteristics of a primary key?

- A.A primary key should be a value that may be null and may change over time.
- B.A primary key should be a value that is not null and will never change.
- C.A primary key should consist of meaningful data and a value that can be changed if needed.
- D.A primary key should not consist of meaningful data and a value that can be changed if needed.

Answer:B

11.Consider the Registration relation shown in the exhibit. Which of the following SQL statements would return all tuples that have course codes beginning with the letter M?

| Registration_ID | Student_ID | Course_Code | First_Name | Last_Name |
|-----------------|------------|-------------|------------|-----------|
| 1001 | S320 | M3455 | Teri | Chan |
| 1002 | S255 | M3455 | Carlos | Trujillo |
| 1003 | S511 | A4343 | Helen | Yang |
| 1004 | S812 | S4511 | Robert | Cray |
| 1005 | S320 | A4343 | Teri | Chan |
| 1006 | S255 | M4422 | Carlos | Trujillo |
| 1007 | S511 | M4433 | Helen | Yang |
| 1008 | S812 | S2212 | Robert | Cray |

Registration Relation

- A.SELECT * FROM Registration WHERE Course_Code = M#;
- B.SELECT * FROM Registration WHERE Course_Code LIKE M_;
- C.SELECT * FROM Registration WHERE Course_Code LIKE M%;
- D.SELECT * FROM Registration WHERE Course_Code = M%;

Answer:C

12.Which process is used to prevent the current database operation from reading or writing a data item while that data item is being accessed by another operation?

- A.Lock
- B.Deadlock
- C.Timestamp
- D.Batch

Answer:A

13.Which relational algebraic operation is used to select specific columns (attributes) from a relation?

- A.Union
- B.Difference
- C.Projection
- D.Intersection

Answer:C

14.Consider the Information Engineering diagram in the exhibit showing a conceptual data model of the relations BUILDING and RESIDENT. What is the next step in refining the data model?



- A.Create intermediate entities.
- B.Create a logical data model.
- C.Resolve many-to-many relationships.
- D.Identify and resolve complex relationships.

Answer:B

15.Which of the following best describes the information contained in the data dictionary (or system catalog)?

- A.Metadata
- B.Data model
- C.Table data
- D.Metafile

Answer:A

16.Consider the following SQL statement and the Orders relation shown in the exhibit: What is the output of this SQL statement? Answer & Explanation Correct Answer C Explanations No more information available

```
SELECT *
FROM Orders
WHERE NOT Amount < 1000
AND Sales_Rep_No = 210;
```

| Order_No | Order_Date | Customer_No | Sales_Rep_No | Amount |
|----------|------------|-------------|--------------|---------|
| 2001 | 11-04-01 | 1001 | 108 | 24.89 |
| 2004 | 12-14-01 | 1004 | 210 | 126.99 |
| 2006 | 01-14-02 | 1008 | 187 | 1216.69 |
| 2009 | 01-15-02 | 1008 | 350 | 926.89 |
| 2012 | 02-02-02 | 1001 | 108 | 816.09 |
| 2015 | 02-10-02 | 1004 | 210 | 1818.19 |
| 2016 | 02-15-02 | 1006 | 109 | 678.99 |

Orders Relation

- A.Two records
- B.Three records
- C.Four records
- D.Five records

Answer: C

17.Consider the following relation definitions: STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20) Primary Key Student_Number HOUSING(Housing_ID: integer NOT NULL Student_Number: integer NOT NULL Building: variable length character string length 25) Primary Key Housing_ID Foreign Key Student_Number References STUDENT(Student_Number) ON DELETE NO ACTION ON UPDATE CASCADE What are the referential constraints for the relations defined in these relation definitions?

- A.There is no relationship between changes in STUDENT(Student_Number) and HOUSING(Student_Number).
- B.When STUDENT(Student_Number) is changed or deleted, this modification or deletion will automatically be reflected in HOUSING(Student_Number).
- C.Modifications to HOUSING(Student_Number) are automatically reflected in changes to

STUDENT(Student_Number), but deletions are not permitted.

D.Modifications to STUDENT(Student_Number) are automatically reflected in changes to HOUSING(Student_Number). For a deletion to occur from STUDENT(Student_Number), it must first occur in HOUSING(Student_Number).

Answer:D

18.Consider the following relation definition: STUDENT(Student_Number: integer NOT NULL Name: variable length character string length 20 NOT NULL) Primary Key Student_Number HOUSING(Housing_ID: integer NOT NULL Student_Number: integer NOT NULL Building: variable length character string length 25 NOT NULL) Primary Key Housing_ID Foreign Key Student_Number References STUDENT(Student_Number) ON DELETE NO CHECK ON UPDATE Which integrity constraint is violated in this relation definition?

- A.Entity integrity
- B.Domain constraint
- C.Referential integrity
- D.Enterprise constraint

Answer:C

19.Which characteristic is an advantage of a database management system?

- A.Data files are owned and maintained by the users.
- B.Database administration is simplified.
- C.A standard method can be used to access the database.
- D.Data is decentralized.

Answer:C

20.Which of the following best describes a composite key?

- A.A composite key is a primary key and foreign key that consists of the first two attributes of a relation.
- B.A composite key is a primary or foreign key defined by its parent key attributes.
- C.A composite key is a foreign key that consists of the same attributes as the primary key from a related table.
- D.A composite key is a primary or foreign key that consists of two or more attributes of a relation.

Answer:D