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QUESTION & ANSWER

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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?

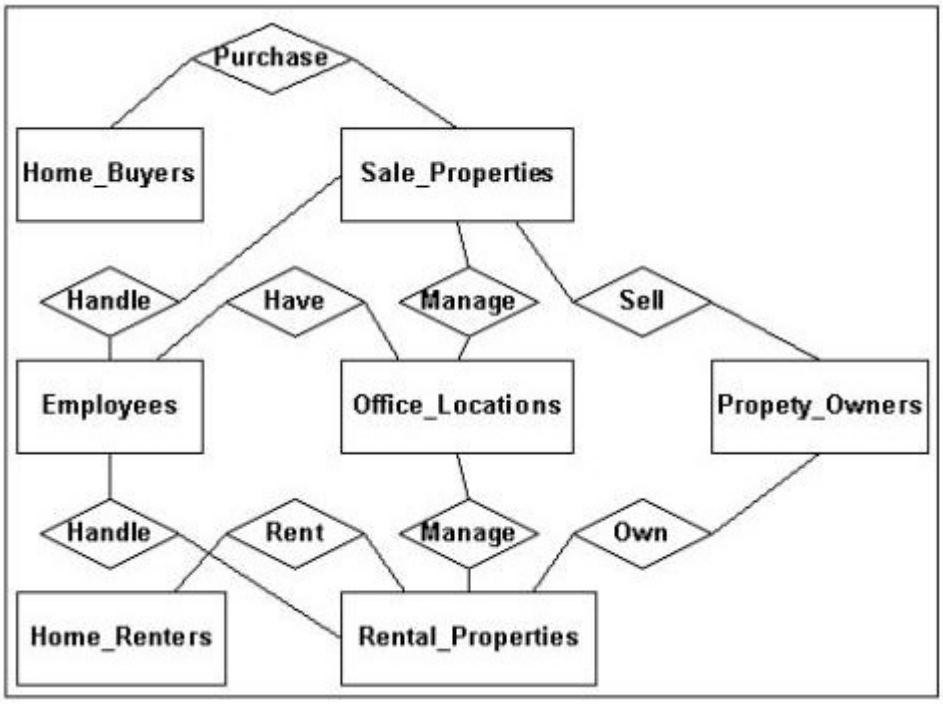
Student_ID	Activity	Activity_Fee
1001	Bowling	50
1001	Racquetball	75
1002	Tennis	100
1003	Handball	35
1003	Swimming	40
1004	Bowling	50
1004	Fencing	125

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

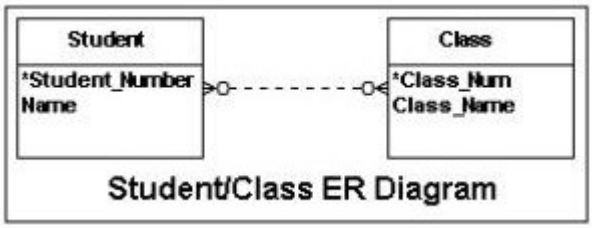
5.Consider the following four database design activities: 1 - Design user views. 2 - Select a DBMS. 3 - Apply normalization. 4 - Determine entities. Which choice shows the correct ordering of these activities, from first to last, by assigned numbers?
A.1, 2, 3, 4
B.3, 4, 1, 2
C.4, 1, 3, 2
D.4, 2, 3,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