

# ***KillTest***

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## 練習問題

<https://www.killtest.jp>

1年間無料アップデート

**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);

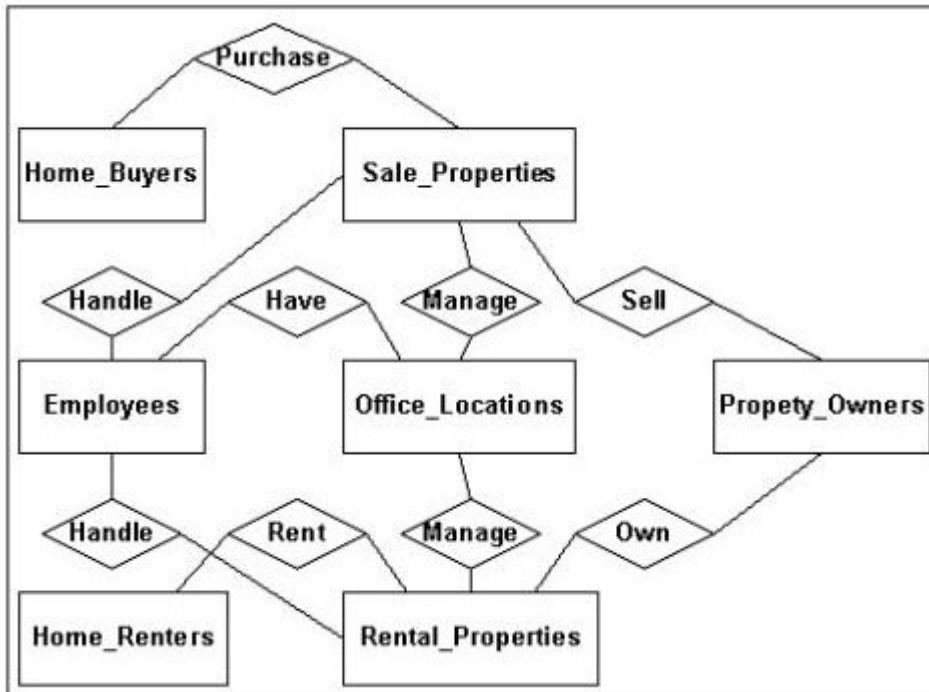
**Answer:C**

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**

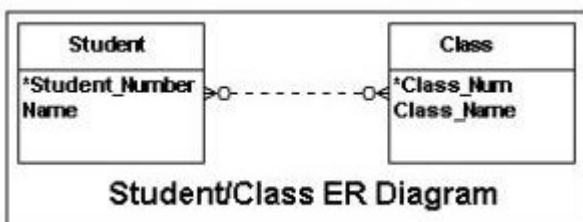
6.Your enterprise is involved in planning a database project. The exhibit shows the result of one phase of the database design life cycle. Which term best describes the diagram shown in the exhibit?



- 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 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**