

Question: 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

Question: 2

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

Cust_No	Cust_Name	Sales_Rep_No
011	MicroWidget	1350
012	MacroWidget	7403
013	Xyz Corp	2457
014	DayCo	8957

Customer Relation

Sales_Rep_Name	Sales_Rep_No
Jane Lee	1350
Henry Butler	7403
Corey Harris	2457
Elena Perez	8957

Sales_Rep Relation

- A. No normal form
- B. Second normal form
- C. First normal form
- D. Third normal form

Answer: D

Question: 3

Your company must choose which type of database to use for a new project. Which of the following lists three characteristics of file-based database systems?

- A. Repetition of data, application program flexibility, and data centralization
- B. Incompatibility of files, tabular data structures, and data dependence
- C. Separation of data, repetition of data, and data independence
- D. Application program inflexibility, data dependence, and separation of data

Answer: D

Question: 4

Consider the following relational algebraic expression as well as the Dept1_Parts and Dept2_Parts relations shown in the exhibit:

Dept1_Parts – $\pi_{\text{Part_ID}}(\text{Dept2_Parts})$

Part_ID	Part_Name	Description	Supp_ID
0312	bolt	hexagon bolt	221
0322	screw	capscrew	441
0332	socket screw	button head	551
0342	flange	blind flange	331
0352	socket screw	countersunk	441

Dept1_Parts Relation

Part_ID	Part_Name	Description	Supp_ID
0302	flange	slip-on flange	331
0322	screw	capscrew	441
0332	socket screw	button head	551
0362	bolt	studbolt	441

Dept2_Parts Relation

Which of the following relations would result from the given relational algebraic expression?

A.

Part_ID	Part_Name	Description	Supp_ID
0302	flange	slip-on flange	331
0362	bolt	studbolt	441

B.

Part_ID	Part_Name	Description	Supp_ID
0322	screw	capscrew	441
0332	socket screw	button head	551

C.

Part_ID	Part_Name	Description	Supp_ID
0312	bolt	hexagon bolt	221
0342	flange	blind flange	331
0352	socket screw	countersunk	441

D.

Part_ID	Part_Name	Description	Supp_ID
0302	flange	slip-on flange	331
0322	screw	capscrew	441
0332	socket screw	button head	551
0362	bolt	studbolt	441

Answer: C

Question: 5

Which statement best describes a procedural data manipulation language command?

- A. It contains a query language for retrieving data.
- B. It can be used only to manipulate data through a SQL interface.
- C. The user is not required to know how the underlying data structures are implemented.
- D. It requires that the user know how the underlying data structures are implemented.

Answer: D

Question: 6

Consider the Recreation relation shown in the exhibit. You need to apply a SQL statement to the Recreation relation that will return the following data:

Student_ID	Activity	Activity_Fee
1001	Bowling	50
1001	Racquetball	75
1002	Bowling	50
1003	Handball	35
1003	Racquetball	75
1004	Bowling	50
1004	Fencing	125

Recreation Relation

Bowling
Fencing
Handball
Racquetball

Which SQL statement applied to the Recreation relation will return this data?

- A. SELECT Activity FROM Recreation;
- B. SELECT DISTINCT Activity FROM Recreation;
- C. SELECT Activity FROM Recreation
WHERE NOT LIKE Activity;
- D. SELECT Activity FROM Recreation
WHERE DISTINCT Activity;

Answer: B

Question: 7

Consider the following database information: domain s_id: integer domain grd: fixed length character string length 1 STUDENT_GRADE(Student_Number: s_id NOT NULL Grade: grd) Primary Key Student_Number During which phase of the database design process would this information be developed?

- A. Logical
- B. Physical
- C. Conceptual
- D. Implementation

Answer: A

Question: 8

In a relational database, which term describes a single table consisting of rows and columns?

- A. Entity
- B. Matrix
- C. Relation
- D. Data dictionary

Answer: C

Question: 9

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

Question: 10

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

Question: 11

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

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

Answer: C

Question: 12

Your enterprise has created a database and database application. The testing phase for the project has started. Which of the following best describes white-box testing of the projects software?

- A. The database designer tests the software because he or she is able to make necessary changes to the underlying code for the software.
- B. A user who has no knowledge of the softwares underlying code tests the software.
- C. Someone other than the database designer tests the software. This person has no access to the underlying code and attempts to use the software only in ways not considered by the software designers.
- D. A person tests the software and submits suggestions to the software's underlying code. This person is someone other than the database designer, but has access to the softwares underlying code.

Answer: D