Started on	Wednesday, January 26, 2022, 2:36 PM
State	Finished
Completed on	Wednesday, January 26, 2022, 3:14 PM
Time taken	37 mins 44 secs
Grade	**10.00** out of 12.00 (**83**%)

Question **1**

Correct

1.00 points out of 1.00

Select the operation that allows us to find tuples that are in one relation but are not in another.

Select one:

- a. selection
- b. union
- c. set difference ✔
- d. intersection
- e. projection

Your answer is correct.

The correct answer is: set difference

Question **2**

Correct

1.00 points out of 1.00

Consider the two relations,

students	
name	**course**
Sally	11
Sally	7
Amy	8
Amy	11
Amy	25
Jane	25
Jane	11
Jane	8

Courses
course
8
11
25

Give the number of tuples and number attributes in the relation student ÷ Courses.

Select one:

- a. 2, 2
- b. 2, 1 ✔
- c. 3, 1
- d. 3, 2
- e. 4, 1

Your answer is correct.

The correct answer is: 2, 1

Question **3**

Correct

1.00 points out of 1.00

Which one is the result of R1 ⋈ R2:

R1

P	Q	T	Y
2	b	c	d
9	a	e	f
2	b	e	f
9	a	d	e
7	g	e	f
7	g	c	d

R2

T	Y	B
c	d	m
c	d	n
d	f	n

A.

P	Q	T	Y	B
2	b	c	d	m
2	b	c	d	n
7	g	c	d	m
7	g	c	d	n

B.

P	Q	T	Y	B
2	b	c	d	m
2	b	c	d	n
7	g	c	d	m
7	g	c	d	n
9	a	d	e	n

C.

P	Q	T	Y	B
2	b	c	d	m
2	b	c	d	n
7	g	c	d	m
7	g	c	d	n
9	a	d	e	n
2	b	c	d	m
2	b	c	d	n

D. None of them

Select one:

- a. B
- b. A ✔
- c. C
- d. D

Your answer is correct.

The correct answer is: A

Question **4**

Correct

1.00 points out of 1.00

For the given three relations:

R1

A	B	C
1	1	x
C	2	y
D	3	y

R2

B	E	M
1	m	i
2	n	j
1	m	k

R3

A	B	C	E	M
1	1	x	m	i
c	2	y	n	J
1	1	x	m	K

Assuming that R1 ? R2 = R3. Operator ? should be:

Select one:

- a. –
- b. ⋈ ✔
- c. ∩
- d. ×

Your answer is correct.

The correct answer is: ⋈

Question **5**

Incorrect

0.00 points out of 1.00

Schema R and S have one common attribute, T1=R $\bowtie_{A\Theta B}$ S, and T2=R⋈S

Which of the following statement is true.

Select one:

- a. Number of attributes in T1 is greater than the number of attributes in T2
- b. Number of attributes in T1 is less than the number of attributes in T2
- c. Number of attributes in T1 is equal to the number of attributes in T2
- d. Number of attributes in T1 is greater than or equal to the number of attributes in T2 ✖

Your answer is incorrect.

The correct answer is: Number of attributes in T1 is greater than the number of attributes in T2

Question **6**

Incorrect

0.00 points out of 1.00

Relation R and S, R has m attributes, and S has n attributes.

Write the expression in terms of m and n, to compute the number of attributes in R×S.

Select one:

- a. m
- b. m*n ✖
- c. n
- d. m+n
- e. m-n

Your answer is incorrect.

The correct answer is: m+n

Question **7**

Correct

1.00 points out of 1.00

Consider the two relations,

R1	
A	**B**
1	5
3	7

R2	
A	**C**
1	7
4	9

Assume that R(A,B,C) is the full natural outer join of R1 and R2. Select all the tuples in R.

Select one or more:

- a. (4,null,9) ✔
- b. (3,7,null) ✔
- c. (1,5,7) ✔
- d. (1,5,null)
- e. (1,null,7)

Your answer is correct.

The correct answers are: (4,null,9), (3,7,null), (1,5,7)

Question **8**

Correct

1.00 points out of 1.00

$\sigma_{f1}(\sigma_{f2}(R))$ is equivalent to:

Select one:

- a. $\sigma_{f2}(R)$
- b. $\sigma_{(f1 \text{ and } f2)}(R)$ ✔
- c. $\sigma_{f1}(R)$
- d. $\sigma_{(f1 \text{ or } f2)}(R)$

Your answer is correct.

The correct answer is: $\sigma_{(f1 \text{ and } f2)}(R)$

Question **9**

Correct

1.00 points out of 1.00

R and S are two relations, which of the following statements is true:

Select one:

- a. R∪S is not equal to S∪R
- b. R×S is equal to S×R ✔
- c. R-S is equal to S-R
- d. None of the statements.

Your answer is correct.

The correct answer is: R×S is equal to S×R

Question **10**

Correct

1.00 points out of 1.00

Consider the relation below,

students	
name	**course**
Sally	11
Betty	7
Amy	8
Amy	11
Amy	25

T1 $\leftarrow \pi_{course}(\sigma_{name='Amy'}(students))$.

T1 has ___ tuples and _____ attributes.

Select one:

- a. 5, 1
- b. 3, 2
- c. 3, 1 ✔
- d. 5 2
- e. 4, 2

Your answer is correct.

The correct answer is: 3, 1

Question **11**

Correct

1.00 points out of 1.00

R ⋈ S, it requires R and S have common

Select one:

- a. Tuple
- b. Domain
- c. Row
- d. Attribute ✔

Your answer is correct.

The correct answer is: Attribute

Question **12**

Correct

1.00 points out of 1.00

Relation R and S, they are union-compatible, R-(R-S) is equal to

Select one:

- a. R∪S
- b. S-R
- c. S
- d. R∩S ✔

Your answer is correct.

The correct answer is: R∩S

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