The student information in a company is stored in the following relation.

student(name, sex, course, marks, section)

The query returns the section in which the average mark of male students is more than

the average mark of all the students in the school.

SELECT section FROM student

WHERE sex=’M’

GROUP BY section

HAVING AVG(marks) > (SELECT AVG(marks) FROM student);

A role Manager has the privilege of select, insert, update and delete on all tables of database.

A new role Employee is created and the following statement is executed.

grant Manager to Employee;

All rights - select, delete, update.

company

comp id comp name comp city

18 Order All Boston

15 Jack Hill Ltd London

16 Akas Foods Delhi

17 Foodies. London

19 sip-n-Bite. New York

foods

item id item name item unit comp id

6 Cheez-It Pcs 15

2 BN Biscuit Pcs 15

3 Mighty Munch Pcs 16

4 Pot Rice Pcs 15

5 Jaffa Cakes Pcs 18

7 Salt n Shake Pcs 17

8 Marie Biscuit Pcs 20

An operation on these two relation produce the following output.

output

comp id comp name comp city item id item name item unit

18 Order All Boston 5 Jaffa Cakes Pcs

15 Jack Hill Ltd London 6 Cheez-It Pcs

15 Jack Hill Ltd London 2 BN Biscuit Pcs

15 Jack Hill Ltd London 4 Pot Rice Pcs

16 Akas Foods Delhi 3 Mighty Munch Pcs

17 Foodies. London 7 Salt n shake Pcs

19 sip-n-Bite. New York

Identify the operation. Marks: 2 MCQ

a) company NATURAL LEFT OUTER JOIN foods

b) company NATURAL INNER JOIN foods

c) company NATURAL RIGHT OUTER JOIN foods

d) company NATURAL FULL OUTER JOIN foods

Answer: a)

Explanation: a) In this question the left relation company and the right relation is foods.

When a NATURAL LEFT OUTER JOIN is applied, firstly the tuples are selected from both

left and right relations which have same comp id. Hence, we get 1 record each of comp id =

16, 17, 18 and 3 records for comp id = 15. Secondly the remaining tuples from left relation

which did not have same comp id with the right relation are also added to the resulting relation

output as shown in last row of output.

b) Similarly for the NATURAL INNER JOIN, the records from left and right relations

which have the same comp id will only be taken into consideration.

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c) When a NATURAL RIGHT OUTER JOIN is applied, firstly the tuples are selected

from both left and right relations which have same comp id. Hence, we get 1 record each of

comp id = 16, 17, 18 and 3 records for comp id = 15. Secondly the remaining tuples from

right relation which did not have same comp id with the left relation are also added to the

resulting relation output. i.e, (20, null, null, 8, Marie Biscuit, Pcs) tuple is added.

d)When a NATURAL FULL OUTER JOIN is applied, firstly the tuples are selected from

both left and right relations which have same comp id. Secondly, the remaining tuples from

the left as well as right relations are added to the resulting relation output. Hence, two tuples

(19, sip-n-Bite, New york, null, null, null) and (20, null, null, 8, Marie Biscuit, Pcs) are added.

As we can see, the resultant output relation follows a) and not the other options