ΡQuestion 1

1. Π ename ( π ename (E ⋈ σ mgr\_eid P) ⋈ σ ename E)
2. Π ename (E ⋈ W ⋈ (σ pname <> ‘Database’ P))
3. Ρ (P1, π ename (E ⋈ W ⋈ (σ pname = ‘Database’ P))

Ρ (P2, π ename (E ⋈ W ⋈ (σ pname = ‘DataMining’ P))

Π ename(P1 intersect P2)

1. Ρ P1\_id->mgr\_id(P1, P)

Π ename (E ⋈ (Σ mgr\_id = P1\_id (P X P1)))

1. Π pname (P ⋈ ((π eid, pid W) / E))

Question 2

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LAB

1)

Σct E.emp\_no

from employees E, titles T, dept\_emp DE, departments D

where E.emp\_no = T.emp\_no AND E.emp\_no = DE.emp\_no

AND DE.dept\_no = D.dept\_no AND D.dept\_name = 'Research'

AND T.title = 'Manager';

2)

Σct DISTINCT E.emp\_no

from employees E, dept\_emp DE, departments D

where E.emp\_no = DE.emp\_no AND DE.dept\_no = D.dept\_no

AND E.first\_name = 'Laurentiu' AND D.dept\_name <> 'Development'

UNION

Σct E.emp\_no

from employees E, dept\_emp DE, departments D

where E.emp\_no = DE.emp\_no AND DE.dept\_no = D.dept\_no

AND E.last\_name = 'Cesareni' AND D.dept\_name <> 'Research';

3)

Σct DISTINCT E.first\_name

From employees E, dept\_manager DM, departments D

where E.emp\_no = DM.emp\_no AND DM.dept\_no = D.dept\_no

AND D.dept\_name = 'Sales';

4)

Σct D.dept\_no, count (\*)

from employees E, dept\_emp DE, departments D

where E.emp\_no = DE.emp\_no AND DE.dept\_no = D.dept\_no

group by D.dept\_no

having count(\*) > 1;

5)

Σct E.first\_name

from employees E, salaries S

where E.emp\_no = S.emp\_no AND S.salary IN

(Σct max (S2.salary)

from employees E2, dept\_emp DE, departments D, salaries S2

where E2.emp\_no = DE.emp\_no AND DE.dept\_no = D.dept\_no

AND S2.emp\_no = E2.emp\_no AND D.dept\_name = 'Sales');