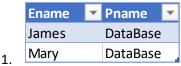
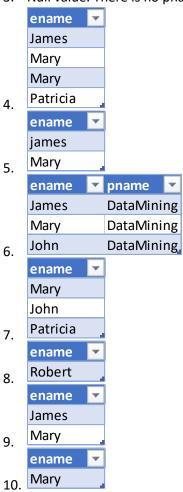
## Question 1



- 2. Null value. There is no employee who has a salary less than 80,000
- 3. Null value. There is no pname that is both 'DataMining' and 'DataBase' at the same time



## Question 2

- 1) Find the names and prices of products supplied by at least one supplier.
  - a.  $\pi P.pname$ , P.price ( $C \bowtie P$ )
- 2) Find the names and addresses of suppliers who supply a product which price is between \$100 and \$200.
  - a.  $\pi$  sname, address (S $\bowtie$ C $\bowtie$ ( $\sigma$  price < 100 P))  $\pi$  sname, address (S $\bowtie$ C $\bowtie$ ( $\sigma$  price > 200 P))
- 3) Find the sids of supplier who supply both "memory" and "cpu".
  - a.  $\pi \operatorname{sid}(\mathbb{C} \bowtie (\sigma \operatorname{pname} < \operatorname{"cpu"} P)) \cap \pi \operatorname{sid}(\mathbb{C} \bowtie (\sigma \operatorname{pname} < \operatorname{"memory"} P))$
- 4) Find the sids of supplier who supply both "memory" or "cpu".

- a.  $\pi \operatorname{sid}(\mathbb{C} \bowtie (\sigma \operatorname{pname} < \operatorname{"cpu"} P)) \cup \pi \operatorname{sid}(\mathbb{C} \bowtie (\sigma \operatorname{pname} < \operatorname{"memory"} P))$
- 5) Find the names of products supplied by all suppliers.
  - a.  $\pi$  pname (C/P)

LAB

1. SELECT E.first\_name, E.last\_name

FROM titles T, employees E

WHERE T.emp\_no = E.emp\_no AND T.title = 'Manager';

2. SELECT E.first\_name, E.last\_name

FROM salaries S, employees E

WHERE S.emp\_no = E.emp\_no AND S.salary < 39000;

3. SELECT E.first\_name, E.last\_name

FROM employees E, departments D, dept\_manager DM

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

AND (D.dept\_name = 'Research' OR D.dept\_name = 'Finance');

4. SELECT DISTINCT E.first\_name, E.last\_name

FROM employees E, salaries S, dept\_manager DM, departments D

WHERE D.dept no = DM.dept no AND DM.emp no = E.emp no

AND S.emp\_no = E.emp\_no AND S.salary < 65000

AND D.dept\_name = 'Finance';

5. SELECT DE.emp\_no

FROM dept\_emp DE

WHERE DE.emp\_no IN (( SELECT DE2.emp\_no

FROM departments D1, dept\_emp DE2

WHERE D1.dept\_no = DE2.dept\_no AND D1.dept\_name = 'Research')

INTERSECT

(SELECT DE3.emp\_no

FROM departments D2, dept\_emp DE3

WHERE D2.dept\_no = DE3.dept\_no AND D2.dept\_name = 'Finance'));