Question 1

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
4. 
5. 
6. 
7. 
8. 
9. 
10. 

Question 2

1. Find the names and prices of products supplied by at least one supplier.
   1. πP.pname, P.price (C⋈P)
2. Find the names and addresses of suppliers who supply a product which price is between $100 and $200.
   1. π sname, address (S⋈C⋈(σ price < 100 P)) – π sname, address (S⋈C⋈( σ price > 200 P))
3. Find the sids of supplier who supply both “memory” and “cpu”.
   1. π sid(C⋈(σ pname < “cpu” P)) Ո π sid(C⋈(σ pname < “memory” P))
4. Find the sids of supplier who supply both “memory” or “cpu”.
   1. π sid(C⋈(σ pname < “cpu” P)) Մ π sid(C⋈(σ pname < “memory” P))
5. Find the names of products supplied by all suppliers.
   1. π 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';

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

FROM salaries S, employees E

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

1. 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');

1. 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';

1. 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'));