

PSG College of Technology - Coimbatore
Department of Applied Mathematics and Computational Sciences
V M.Sc. Theoretical Computer Science – 15XT57 Database Design Lab
Work Sheet – 2

Relational Schema Description: suppliers-and-parts database contains three relations and the following data:

I. Write DDL statements to create the tables, constraints and choose suitable types for the attributes

SUPPLIER: Relation SUPPLIER denotes suppliers. Each supplier has one supplier number (Sno), which is unique to that supplier (and so Sno is the primary key), one name (Sname), not necessarily unique; one rating or status value (Status); and one location (City). Starting letters (sname, city) should be capitalized. Rating should be in multiples of 10 . Maximum rating is 50. All supplier tuples should have supplier names.

PART: Relation PART denotes parts. Each kind of part has one part number (Pno), which is unique (So Pno is the primary key); one name (Pname); one color (Color); one weight (Weight); and one location where parts of that kind are stored (City). Starting letters (pname, color, city) should be capitalized, Pname must be specified for each tuple.

SHIPMENT: Relation SHIPMENT denotes shipments (it shows which parts are supplied by which suppliers). Each shipment has one supplier number (Sno), one part number (Pno), and one quantity (Qty), and one price (Price). For the sake of the example, (Sno, Pno) is the primary key; also Sno and Pno are both foreign keys, matching the primary keys of Suppliers and Parts, respectively). Qty should not exceed 1000.

Note that the database shown below includes one supplier, supplier S5, with no shipments at all.

SUPPLIER

<i>Sno</i>	<i>Sname</i>	<i>Status</i>	<i>City</i>
s1	Smith	20	London
s2	Jones	10	Paris
s3	Blake	30	Paris
s4	Clark	20	London
s5	Adams	30	NULL

PART

<i>Pno</i>	<i>Pname</i>	<i>Color</i>	<i>Weight</i>	<i>City</i>
p1	Nut	Red	12	London
p2	Bolt	Green	17	Paris
p3	Screw	NULL	17	Rome
p4	Screw	Red	14	London
p5	Cam	Blue	12	Paris
p6	Cog	Red	19	London

SHIPMENT

<i>Sno</i>	<i>Pno</i>	<i>Qty</i>	<i>Price</i>
s1	p1	300	.005
s1	p2	200	.009
s1	p3	400	.004
s1	p4	200	.009
s1	p5	100	.01
s1	p6	100	.01
s2	p1	300	.006
s2	p2	400	.004
s3	p2	200	.009
s3	p3	200	NULL
s4	p2	200	.008
s4	p3	NULL	NULL
s4	p4	300	.006
s4	p5	400	.003

II. Retrieve the required information using SQL JOIN, Sub Queries and Set operations.

1. Print part numbers and names for all parts supplied by s2.
2. Print the details of same colored parts.

3. Display the suppliers who are from the same city.
4. Print supplier names for suppliers who ship all parts.
5. Print all shipment information where the quantity is in the range 300 to 750 inclusive.
6. Print all part names shipped with the range 200 to 750 . Result should not include duplicates.
7. Print supplier names for suppliers who ship P2 or P4.
8. Print suppliers who ship at least all those parts shipped by supplier S3. Do not include S3 in the answer and do not "count".
9. List suppliers who ship at least one type of red part.
10. Print part names which has more than two suppliers.
11. Print supplier numbers for suppliers who do not ship any red parts.
12. Print supplier numbers for suppliers who ship ONLY red parts.
13. Print supplier names for suppliers who do not currently ship any parts.
14. Print supplier names for suppliers who ship at least one part that is also shipped by supplier S2. Do not include S2 in the answer.
15. Print the details of parts (partno, partname, qty) supplied by 'Blake'
16. Print the shipment information by price in descending numeric order. Exclude null.
17. Print supplier numbers for suppliers who are located in the same city as supplier S1. Do not include S1 in the answer.
18. Print part numbers for all parts shipped by more than one supplier. You may use a count on this one.
19. Print supplier numbers for suppliers with status value less than the current average status value of all suppliers.
20. Print the total number of suppliers (regardless of whether they are currently shipping any parts)..
21. Print the total number of suppliers currently shipping parts.
22. Print Part name, supplier name and unit cost for the shipment(s) with the highest unit cost.
23. Find out the first two suppliers for the shipment(s) with the highest total cost.
24. Print all the supplier information for the supplier(s) making the most money. The supplier money is determined by the sum of all shipment cost. Each shipment cost is found by the number of units being shipped times the price per unit.
25. For each supplier, print the supplier number and how many different parts shipped. For example, S1 6; S2 2, ...
26. Find the supplier and rating who supplied a total of 250 units.
27. Return the names of parts whose average qty shipped is greater than the total qty shipped of all parts.
28. Delete the part that has the lowest shipment history.
29. Assign rating 50 to supplier who made the highest shipment amount. Note: Highest shipment amount computed by summing qty x price for each supplier.
30. Create a view called Part_view that includes the following data..
Pno, Pname, Color, Weight, City ,total cost and total qty shipped for each product