

Database Management System (DBMS)

Lab Assignment

Date of assignment: 26th Feb 2020

Instructor: Dr. Ranjana Vyas

Note: 1) All Assignments should be done independently.

2) Perform the following queries on the previous tables. Uses join operation if needed.

*****USE INSERT INTO Table (Column1, Column2) VALUES (Value1, Value2), (Value1, Value2) for multiple insertions at a time.**

Question 1: Assume the following relations: //based on JOIN

Supplier-Parts-Projects

Supplier

<u>Sno</u>	SNAME	STATUS	CITY
S1	SMITH	20	LONDON
S2	JONES	10	PARRIS
S3	BLAKE	30	PARRIS
S4	CLARK	20	LONDON
S5	ADAMS	30	ATHENS

Parts

<u>Pno</u>	PNAME	COLOR	WEIGHT	CITY
P1	NUT	RED	12	LONDON
P2	BOLT	GREEN	17	PARIS
P3	SCREW	BLUE	17	ROME
P4	SCREW	RED	14	LONDON
P5	CAM	BLUE	12	PARIS
P6	COG	RED	19	LONDON

Project

<u>Jno</u>	JNAME	CITY
J1	SORTER	PARIS
J2	DISPLAY	ROME
J3	OCR	ATHENS
J4	CONSOLE	ATHENS
J5	RAID	LONDON
J6	EDS	OSLO
J7	TAPE	LONDON

1. Get suppliers names who supply part p3.
2. Get distinct suppliers names who supply part p3.
3. Get the supplier number, supplier names for suppliers who supply project J1.
4. Get part numbers of parts supplied by a supplier in London.
5. Get part numbers of parts supplied by a supplier in London to a project in London.

Question 2: Consider the following schema: //Relational Algebra

Suppliers(sid: integer, sname: string, address: string)

Parts(pid: integer, pname: string, colour: string)

Catalog(sid: integer, pid: integer, cost: real)

The key fields are underlined, and the domain of each field is listed after the field name. Thus sid is the key for Suppliers, pid is the key for Parts, and sid and pid together form the key for Catalog. The Catalog relation lists the prices charged for parts by Suppliers. Write the following queries in relational algebra.

Catalog

SID	PID	COST
1	1	\$10.00
1	2	\$20.00
1	3	\$30.00
1	4	\$40.00
1	5	\$50.00
2	1	\$9.00
2	3	\$34.00
2	5	\$48.00

Parts

PID	Pname	Colour
1	Red1	Red
2	Red2	Red
3	Green1	Green
4	Blue1	Blue
5	Red3	Red

Suppliers

SID	Sname	Address
1	Yosemite Sham	Devil's canyon, AZ
2	Wiley E. Coyote	RR Asylum, NV
3	Elmer Fudd	Carrot Patch, MN

1. Find the *names* of suppliers who supply some red part.
2. Find the *sids* of suppliers who supply some red or green part.
3. Find the *sids* of suppliers who supply some red part or are at 21 George Street.
4. Find the *sids* of suppliers who supply some red part and some green part.
5. Find the *sids* of suppliers who supply every part.
6. Find the *sids* of suppliers who supply every red par.
7. Find the *sids* of suppliers who supply every red or green part.
8. Find the *sids* of suppliers who supply every red part or supply every green part.
9. Find pairs of *sids* such that the supplier with the first sid charges more for some part than the supplier with the second sid.
10. Find the *pids* of parts supplied by at least two different suppliers.
11. Find the *pids* of the most expensive parts supplied by suppliers names Yosemite.
12. Find the *pids* of parts supplied by every supplier at less than \$200. (If any supplier either does not supply the part or charges more than \$200 for it, the part is not selected).

Question 3: Consider the following schema: // Relational Algebra

Sailors (Sid: integer, Sname: string, Rating: integer, Age: real)

Boats (Bid:integer, Bname: string, Color: string)

Reserves (Sid: integer, Bid: integer, Day:date)

Sailors

Sid	Sname	Rating	Age
22	Dustin	7	45
29	Brutus	1	33
31	Lubber	8	55.5

32	Andy	8	25.5
58	Rusty	10	35
64	Horatio	7	35
71	Zorba	10	16
74	Horatio	9	35
85	Art	3	25.5
95	Bob	3	63.5

Boats

Bid	Bname	Color
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

Reserves

Sid	Bid	Day
22	101	1998-10-10
22	102	1998-10-10
22	103	1998-10-08
22	104	1998-10-07
31	102	1998-11-10
31	103	1998-11-06
31	104	1998-11-12
64	101	1998-09-05

64	102	1998-09-09
74	103	1998-09-08

1. Find all information of sailors who have reserved boat number 101.
2. Find the name of the boat reserved by Bob.
3. Find the names of sailors who have reserved a red boat, and list in the order of age.
4. Find the names of sailors who have reserved at least one boat.
5. Find the ids and names of sailors who have reserved two different boats on the same day.
6. Find the ids of sailors who have reserved a red boat or a green boat.
7. Find the name and the age of the youngest sailor.
8. Count the number of different sailor names.
9. Find the average age of sailors for each rating level.
10. Find the average age of sailors for each rating level that has at least two sailors.
11. Find the colors of boats reserved by Lubber.