**PSG College of Technology - Coimbatore**

**Department of Applied Mathematics and Computational Sciences**

**3rd Semester MSc SS**

**20XW38 - RDBMS LAB - PROBLEM SHEET – 9 (PL SQL )**

Consider the given database consisting of four relations:

Person(name, age, gender) // name is a key

Frequents(name, pizzeria) // [name,pizzeria] is a key .

Eats(name, pizza) // [name,pizza] is a key

Serves(pizzeria, pizza, price) // [pizzeria,pizza] is a key

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| Person   |  |  |  | | --- | --- | --- | | **name** | **age** | **gender** | | Amy | 16 | female | | Ben | 21 | male | | Cal | 33 | male | | Dan | 13 | male | | Eli | 45 | male | | Fay | 21 | female | | Gus | 24 | male | | Hil | 30 | female | | Ian | 18 | male | | Frequents   |  |  | | --- | --- | | **name** | **pizzeria** | | Amy | Pizza Hut | | Ben | Chicago Pizza | | Ben | Pizza Hut | | Cal | New York Pizza | | Cal | Straw Hat | | Dan | New York Pizza | | Dan | Straw Hat | | Eli | Chicago Pizza | | Eli | Straw Hat | | Fay | Dominos | | Fay | Little Caesars | | Gus | Chicago Pizza | | Gus | Pizza Hut | | Hil | Dominos | | Hil | Pizza Hut | | Hil | Straw Hat | | Ian | Dominos | | Ian | New York Pizza | | Ian | Straw Hat | |

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| **Eats**   |  |  | | --- | --- | | **name** | **pizza** | | Amy | mushroom | | Amy | pepperoni | | Ben | cheese | | Ben | pepperoni | | Cal | supreme | | Dan | cheese | | Dan | mushroom | | Dan | pepperoni | | Dan | sausage | | Dan | supreme | | Eli | cheese | | Eli | supreme | | Fay | mushroom | | Gus | cheese | | Gus | mushroom | | Gus | supreme | | Hil | cheese | | Hil | supreme | | Ian | pepperoni | | Ian | supreme | | **Serves**   |  |  |  | | --- | --- | --- | | **pizzeria** | **pizza** | **price** | | Chicago Pizza | cheese | 7.75 | | Chicago Pizza | supreme | 8.5 | | Dominos | cheese | 9.75 | | Dominos | mushroom | 11 | | Little Caesars | cheese | 7 | | Little Caesars | mushroom | 9.25 | | Little Caesars | pepperoni | 9.75 | | Little Caesars | sausage | 9.5 | | New York Pizza | cheese | 7 | | New York Pizza | pepperoni | 8 | | New York Pizza | supreme | 8.5 | | Pizza Hut | cheese | 9 | | Pizza Hut | pepperoni | 12 | | Pizza Hut | sausage | 12 | | Pizza Hut | supreme | 12 | | Straw Hat | cheese | 9.25 | | Straw Hat | pepperoni | 8 | | Straw Hat | sausage | 9.75 | |

create table person

(

name varchar(30) primary key,

age number(2) not null,

gender varchar(10) not null

);

insert into person values ('Amy', 16, 'Female');

insert into person values ('Ben', 21, 'Male');

insert into person values ('Cal', 33, 'Male');

insert into person values ('Dan', 13, 'Male');

insert into person values ('Eli', 45, 'Male');

insert into person values ('Fay', 21, 'Female');

insert into person values ('Gus', 24, 'Male');

insert into person values ('Hil', 30, 'Female');

insert into person values ('Ian', 18, 'Male');

create table frequents

(

name varchar(30),

pizzeria varchar(30),

constraint pk primary key (name, pizzeria),

constraint fk\_name foreign key (name) references person(name)

);

insert into frequents values ('Amy', 'Pizza Hut');

insert into frequents values ('Ben', 'Chicago Pizza');

insert into frequents values ('Ben', 'Pizza Hut');

insert into frequents values ('Cal', 'New York Pizza');

insert into frequents values ('Cal', 'Straw Hut');

insert into frequents values ('Dan', 'New York Pizza');

insert into frequents values ('Dan', 'Straw Hut');

insert into frequents values ('Fay', 'Dominos');

insert into frequents values ('Fay', 'Little Caesars');

insert into frequents values ('Gus', 'Chicago Pizza');

insert into frequents values ('Gus', 'Pizza Hut');

insert into frequents values ('Hil', 'Dominos');

insert into frequents values ('Hil', 'Pizza Hut');

insert into frequents values ('Hil', 'Straw Hut');

insert into frequents values ('Ian', 'Dominos');

insert into frequents values ('Ian', 'New York Pizza');

insert into frequents values ('Ian', 'Straw Hut');

create table eats

(

name varchar (30),

pizza varchar(30),

constraint pke primary key (name, pizza),

constraint fke\_name foreign key (name) references person(name)

);

insert into Eats values('Amy', 'Mushrooms');

insert into Eats values('Amy', 'Pepporoni');

insert into Eats values('Ben', 'Cheese');

insert into Eats values('Ben', 'Mushrooms');

insert into Eats values('Cal', 'Supreme');

insert into Eats values('Dan', 'Cheese');

insert into Eats values('Dan', 'Mushrooms');

insert into Eats values('Dan', 'Pepporoni');

insert into Eats values('Eli', 'Cheese');

insert into Eats values('Eli', 'Supreme');

insert into Eats values('Fay', 'Mushrooms');

insert into Eats values('Gus', 'Cheese');

insert into Eats values ('Gus', 'Mushrooms');

insert into Eats values('Gus', 'Supreme');

insert into Eats values('Hil', 'Cheese');

insert into Eats values('Hil', 'Supreme');

insert into Eats values('Ian', 'Pepporoni');

insert into Eats values('Ian', 'Supreme');

create table serves

(

pizzeria varchar(30),

pizza varchar(30),

price float(4),

constraint pks primary key(pizzeria, pizza)

);

insert into serves values ('Chicago Pizza', 'Cheese', 7.75);

insert into serves values ('Chicago Pizza', 'Supreme', 8.5);

insert into serves values ('Dominos', 'Cheese', 9.75);

insert into serves values ('Dominos', 'Mushroom', 11);

insert into serves values ('Little Caesars', 'Cheese', 9.25);

insert into serves values ('Little Caesars', 'Mushroom', 9.25);

insert into serves values ('Little Caesars', 'Pepproni', 9.75);

insert into serves values ('Little Caesars', 'Sausage', 9.5);

insert into serves values ('New York Pizza', 'Cheese', 7);

insert into serves values ('New York Pizza', 'Pepporoni', 8);

insert into serves values ('New York Pizza', 'Supreme', 8.5;

insert into serves values ('Pizza Hut', 'Cheese', 9);

insert into serves values ('Pizza Hut', 'Pepporoni', 12);

insert into serves values ('Pizza Hut', 'Sausage', 12);

insert into serves values ('Pizza Hut', 'Supreme', 12;

insert into serves values ('Straw Hat', 'Cheese', 9.25);

insert into serves values ('Straw Hat', 'Pepporoni', 8);

insert into serves values ('Straw Hat', 'Sausage', 9.75);

Write **interactive** PL-SQL Block/Stored Procedures/Functions to perform the following. You should use only JOINS for retrieval operations. No subqueries permitted. Use implicit and explicit cursors wherever necessary.

1. Create block to display all the rows in the person table.

SET SERVEROUTPUT ON;

BEGIN

dbms\_output.put\_line('NAME '|| ' GENDER ' || ' PERSON ');

FOR i IN (SELECT NAME, AGE, GENDER FROM PERSON)

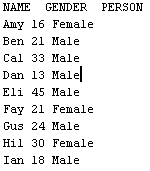
LOOP

dbms\_output.put\_line(i.name || ' ' || i.age || ' ' || i.gender);

END LOOP;

END;

/



1. Create a PL/SQL block that fetches and displays the first three preferred pizzas. Order your output so that the pizza with the highest count is displayed first.
2. To insert records into person and serves.
3. Obtain the pizza as input from the user and find the number of pizzerias supplying it using implicit curser. If it has more than 3 suppliers, list pizzeria and price.
4. To increase the price of Dominos pizza by 10% . And display the number of records updated. (implicit cursor)
5. Find all pizzas eaten by at least one female over the age of 20.
6. Find the names, age of all females who eat at least one pizza served by Straw Hat.
7. Find all pizzerias that serve at least one pizza for less than $10 that either Amy or Fay (or both) eat.
8. Find all pizzas that are eaten only by people younger than 24, or that cost less than $10 everywhere they're served.
9. Find the age of the oldest person (or people) who eat mushroom pizza.
10. Find all pizzerias that serve every pizza eaten by people over 30.
11. Find all pizzerias where pepperoni pizza cost less than supreme pizza in the Pizza Hut pizzeria.
12. Determine the average price of pizza for every pizzas but only for those pizzas what is served at least three pizzerias!
13. Find the pizzeria where the average price of the pizzas is the highest.
14. Modify the procedure (7). to find the names of all MALES who eat at least one pizza served by Straw Hat.( Access tuples of user\_procedures for updating the above procedure)
15. Write a query against a Data Dictionary view to show you a list of procedures you own.
16. Find the pizzeria serving the cheapest pepperoni pizza. In the case of ties, return all of the cheapest-pepperoni pizzerias.

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Create the schema for our tables \*/

create table Person(name text, age int, gender text);

create table Frequents(name text, pizzeria text);

create table Eats(name text, pizza text);

create table Serves(pizzeria text, pizza text, price decimal);

/\* Populate the tables with our data \*/

insert into Person values('Amy', 16, 'female');

insert into Person values('Ben', 21, 'male');

insert into Person values('Cal', 33, 'male');

insert into Person values('Dan', 13, 'male');

insert into Person values('Eli', 45, 'male');

insert into Person values('Fay', 21, 'female');

insert into Person values('Gus', 24, 'male');

insert into Person values('Hil', 30, 'female');

insert into Person values('Ian', 18, 'male');

insert into Frequents values('Amy', 'Pizza Hut');

insert into Frequents values('Ben', 'Pizza Hut');

insert into Frequents values('Ben', 'Chicago Pizza');

insert into Frequents values('Cal', 'Straw Hat');

insert into Frequents values('Cal', 'New York Pizza');

insert into Frequents values('Dan', 'Straw Hat');

insert into Frequents values('Dan', 'New York Pizza');

insert into Frequents values('Eli', 'Straw Hat');

insert into Frequents values('Eli', 'Chicago Pizza');

insert into Frequents values('Fay', 'Dominos');

insert into Frequents values('Fay', 'Little Caesars');

insert into Frequents values('Gus', 'Chicago Pizza');

insert into Frequents values('Gus', 'Pizza Hut');

insert into Frequents values('Hil', 'Dominos');

insert into Frequents values('Hil', 'Straw Hat');

insert into Frequents values('Hil', 'Pizza Hut');

insert into Frequents values('Ian', 'New York Pizza');

insert into Frequents values('Ian', 'Straw Hat');

insert into Frequents values('Ian', 'Dominos');

insert into Eats values('Amy', 'pepperoni');

insert into Eats values('Amy', 'mushroom');

insert into Eats values('Ben', 'pepperoni');

insert into Eats values('Ben', 'cheese');

insert into Eats values('Cal', 'supreme');

insert into Eats values('Dan', 'pepperoni');

insert into Eats values('Dan', 'cheese');

insert into Eats values('Dan', 'sausage');

insert into Eats values('Dan', 'supreme');

insert into Eats values('Dan', 'mushroom');

insert into Eats values('Eli', 'supreme');

insert into Eats values('Eli', 'cheese');

insert into Eats values('Fay', 'mushroom');

insert into Eats values('Gus', 'mushroom');

insert into Eats values('Gus', 'supreme');

insert into Eats values('Gus', 'cheese');

insert into Eats values('Hil', 'supreme');

insert into Eats values('Hil', 'cheese');

insert into Eats values('Ian', 'supreme');

insert into Eats values('Ian', 'pepperoni');

insert into Serves values('Pizza Hut', 'pepperoni', 12);

insert into Serves values('Pizza Hut', 'sausage', 12);

insert into Serves values('Pizza Hut', 'cheese', 9);

insert into Serves values('Pizza Hut', 'supreme', 12);

insert into Serves values('Little Caesars', 'pepperoni', 9.75);

insert into Serves values('Little Caesars', 'sausage', 9.5);

insert into Serves values('Little Caesars', 'cheese', 7);

insert into Serves values('Little Caesars', 'mushroom', 9.25);

insert into Serves values('Dominos', 'cheese', 9.75);

insert into Serves values('Dominos', 'mushroom', 11);

insert into Serves values('Straw Hat', 'pepperoni', 8);

insert into Serves values('Straw Hat', 'cheese', 9.25);

insert into Serves values('Straw Hat', 'sausage', 9.75);

insert into Serves values('New York Pizza', 'pepperoni', 8);

insert into Serves values('New York Pizza', 'cheese', 7);

insert into Serves values('New York Pizza', 'supreme', 8.5);

insert into Serves values('Chicago Pizza', 'cheese', 7.75);

insert into Serves values('Chicago Pizza', 'supreme', 8.5);