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CISC 7510X HW# 2 (due by 3rd class;): For the below `store' schema:

Relationships:­­­­  
Customer has many purchases  
Purchases belongs to a customer  
Purchase has many products  
Products has many purchases  
Products has many customers  
  
product(productid,description,)  
customer(customerid,username,fname,lname,street1,street2,city,state,zip)  
purchase(purchaseid,purchasetimestamp,customerid,productid,quantity,price)  
  
Using SQL, answer these questions (write a SQL query that answers these questions):

1. What is the description of productid=42?

SELECT description FROM products WHERE productid = 42;

1. What's the name and address of customerid=42?

SELECT fname, lname, street1, street2, city, state, zip FROM customers WHERE customerid = 42;

1. What products did customerid=42 purchase?

SELECT description FROM products   
INNER JOIN purchases ON products.productid = purchases.productid WHERE purchases.customerid = 42;

1. List customer names who have never puchased anything.

SELECT fname, lname FROM customers   
WHERE customerid NOT IN   
(SELECT DISTINCT customerid FROM customers   
INNER JOIN purchases ON purchases.customerid = customersid);

1. List product descriptions who have never been purcahsed by anyone.

SELECT description FROM products

WHERE productid NOT IN

(SELECT DISTINCT productid FROM products INNER JOIN purchases ON purchases.productid = productid);

1. What products were purchased by customers with zip code 10001?

SELECT \* FROM products   
WHERE productid IN   
(SELECT DISTINCT productid FROM purchases INNER JOIN customers ON customerid = purchases.customerid WHERE customers.zip = 10001);

1. What percentage of customers have ever purchased productid=42?

WITH specific\_product AS (SELECT DISTINCT customerid from customers INNER JOIN purchases ON purchases.customerid = customerid INNER JOIN products on productid = purchases.productid WHERE productid = 42) SELECT SUM(CASE WHEN customerid IN (SELECT id FROM customer\_buys\_specific\_product) THEN 1.0 ELSE 0.0 END)/SUM(1)\*100 AS percentage FROM customers;

1. Of customers who purchased productid=42, what percentage also purchased productid=24?
2. What is the most popular (purchased most often) product in NY state?
3. What is the most popular (purchased most often) product in North East?