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--DDL

--Implement the provided relation model using SQL ( DDL part ) & Insert data into your
tables ( DML part )

CREATE DATABASE DQL;
USE DQL;

--PRODUCT TABLE
CREATE TABLE PRODUCT(
    PRODUCT_NAME VARCHAR(20) PRIMARY KEY,
    PRODUCT_PRICE FLOAT
);

--INSERTING DATA INTO PRODUCT TABLE
INSERT INTO PRODUCT
VALUES('DOOHICKEY', 100),
( 'WIDGET', 100),
( 'GADGET', 2000),
('MACHINE', 400),
( 'ROBOTS', 40000);

SELECT*FROM PRODUCT;

--CUSTOMERS TABLE
CREATE TABLE CUSTOMERS(
    CUSTOMER_ID INT PRIMARY KEY ,
    CUSTOMER_NAME VARCHAR( 50),
    CUSTOMER_ADDRESS VARCHAR(100)
);

--INSERTING DATA INTO CUSTOMERS TABLE
INSERT INTO CUSTOMERS
VALUES(1,'Ahmed','TUNISIA'),
(2, 'Coulibaly','SENEGAL'),
(3, 'Hasan', 'EGYPT'),
(4,'Ahmed','JAPAN'),
(5, 'Coulibaly','CONGO'),
(6, 'ECHEZONA', 'NIGERIA'),
(7, 'KEMP','USA'),
(8, 'BILLY', 'BRITAIN');
SELECT*FROM CUSTOMERS;

--CREATE ORDER TABLE
CREATE TABLE ORDERS(
    ORDER_ID INT PRIMARY KEY,

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CUSTOMER_ID INT,
PRODUCT_NAME VARCHAR(20),
QUANTITY INT,
ORDER_DATE DATE,
TOTAL_COST FLOAT,
FOREIGN KEY(CUSTOMER_ID) REFERENCES CUSTOMERS(CUSTOMER_ID),
FOREIGN KEY(PRODUCT_NAME) REFERENCES PRODUCT(PRODUCT_NAME)
);
SELECT*FROM ORDERS;
SELECT*FROM PRODUCT;
--INSERTING DATA INTO ORDERS TABLE
INSERT INTO ORDERS
VALUES (1201,1,'WIDGET',30,'2023-04-03',3000),
(1202,2,'GADGET',1200,'2023-12-11',2400000),
(1203,3,'WIDGET',200,'2024-05-30',20000),
(1204,6,'ROBOTS',10,'2024-08-15',400000),
(1205,1,'WIDGET',50,'2022-11-03',5000),
(1206,4,'ROBOTS',12,'2024-02-11',480000),
(1207,4,'WIDGET',300,'2021-05-15',30000),
(1208,6,'MACHINE',50,'2024-09-25',20000),
(1209,7,'ROBOTS',100,'2024-02-11',4000000),
(1210,5,'DOOHICKEY',100,'2021-05-15',10000),
(1211,8,'MACHINE',300,'2024-09-25',120000);

SELECT*FROM ORDERS
JOIN CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID;

/*Write a SQL query to retrieve the names of the customers who have placed an order
for at least one widget and at least one gadget,
along with the total cost of the widgets and gadgets ordered by each customer.
The cost of each item should be calculated by multiplying the quantity by the price of
the product.*/

SELECT CUSTOMERS.CUSTOMER_NAME,SUM(ORDERS.TOTAL_COST)AS 'TOTAL COST'FROM ORDERS JOIN
CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
WHERE ORDERS.PRODUCT_NAME LIKE 'GADGET' OR ORDERS.PRODUCT_NAME LIKE 'WIDGET'
GROUP BY CUSTOMERS.CUSTOMER_NAME;

--Write a query to retrieve the names of the customers who have placed an order for at
least one widget, along with the total cost of the widgets ordered by each customer.

SELECT CUSTOMERS.CUSTOMER_NAME,SUM(ORDERS.TOTAL_COST)AS 'TOTAL COST'FROM ORDERS JOIN
CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
WHERE ORDERS.PRODUCT_NAME LIKE 'W_____%'
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GROUP BY CUSTOMERS.CUSTOMER_NAME;

--Write a query to retrieve the names of the customers who have placed an order for at
least one gadget, along with the total cost of the gadgets ordered by each customer.

    SELECT CUSTOMERS.CUSTOMER_NAME,SUM(ORDERS.TOTAL_COST)AS 'TOTAL COST'FROM ORDERS JOIN
CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
WHERE ORDERS.PRODUCT_NAME LIKE 'GA ____ %'
GROUP BY CUSTOMERS.CUSTOMER_NAME;

--Write a query to retrieve the names of the customers who have placed an order for at
least one doohickey, along with the total cost of the doohickeys ordered by each
customer.

    SELECT CUSTOMERS.CUSTOMER_NAME,SUM(ORDERS.TOTAL_COST)AS 'TOTAL COST'FROM ORDERS JOIN
CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
WHERE ORDERS.PRODUCT_NAME LIKE 'DOOHICKEY'
GROUP BY CUSTOMERS.CUSTOMER_NAME;

--Write a query to retrieve the total number of widgets and gadgets ordered by each
customer, along with the total cost of the orders.

    SELECT CUSTOMERS.CUSTOMER_NAME,SUM(ORDERS.TOTAL_COST)AS 'TOTAL
COST',SUM(ORDERS.QUANTITY) 'QUANTITY OF PRODUCT'FROM ORDERS JOIN CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
WHERE ORDERS.PRODUCT_NAME LIKE '[WG]%'
GROUP BY CUSTOMERS.CUSTOMER_NAME
ORDER BY CUSTOMERS.CUSTOMER_NAME DESC;

--Write a query to retrieve the names of the products that have been ordered by at
least one customer, along with the total quantity of each product ordered.

    SELECT ORDERS.PRODUCT_NAME,SUM(ORDERS.QUANTITY) 'QUANTITY OF PRODUCT'FROM ORDERS JOIN
CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
GROUP BY ORDERS.PRODUCT_NAME
ORDER BY ORDERS.PRODUCT_NAME DESC;

--Write a query to retrieve the names of the customers who have placed the most
orders, along with the total number of orders placed by each customer.
    SELECT TOP 3 CUSTOMERS.CUSTOMER_NAME,COUNT(ORDERS.CUSTOMER_ID)'TOTAL NUM OF
ORDERS'FROM ORDERS JOIN CUSTOMERS
ON CUSTOMERS.CUSTOMER_ID=ORDERS.CUSTOMER_ID
GROUP BY CUSTOMER_NAME

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