

COMSATS UNIVERSITY ISLAMABAD, ABBOTTABAD CAMPUS

DATABASE-I LAB-ASSINGEMENT # 02

**Submitted By:**

Laiba binta tahir. FA21-BSE-019-4A

**Submitted To:** Dr. Rab Nawaz Jadoon

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1. DDL to implement the schema:

- Create the Customer table

CREATE TABLE Customer (

Customerno VARCHAR2(5) CONSTRAINT pk\_customer\_customerno PRIMARY KEY,

Cname VARCHAR2(50),

CONSTRAINT chk\_customer\_customerno CHECK (Customerno LIKE 'C%')

);

-- Create the Cust\_Order table

CREATE TABLE Cust\_Order (

Orderno VARCHAR2(5) CONSTRAINT pk\_cust\_order\_orderno PRIMARY KEY,

Odate DATE,

Customerno VARCHAR2(5) CONSTRAINT fk\_cust\_order\_customer REFERENCES Customer(Customerno),

Ord\_amt NUMBER(8) DEFAULT 0,

CONSTRAINT chk\_cust\_order\_orderno CHECK (Orderno LIKE 'O%')

);

-- Create the Item table

CREATE TABLE Item (

Itemno VARCHAR2(5) CONSTRAINT pk\_item\_itemno PRIMARY KEY,

Item\_name VARCHAR2(30),

unit\_price NUMBER(5),

CONSTRAINT chk\_item\_itemno CHECK (Itemno LIKE 'I%')

);

-- Create the Order\_item table

CREATE TABLE Order\_item (

Orderno VARCHAR2(5) CONSTRAINT fk\_order\_item\_cust\_order REFERENCES Cust\_Order(Orderno),

Itemno VARCHAR2(5) CONSTRAINT fk\_order\_item\_item REFERENCES Item(Itemno),

qty NUMBER(3)

);

1. Populating the Database:

-- Inserting data into the Customer table

INSERT INTO Customer (Customerno, Cname) VALUES ('C001', 'John Doe');

INSERT INTO Customer (Customerno, Cname) VALUES ('C002', 'Jane Smith');

-- Inserting data into the Cust\_Order table

INSERT INTO Cust\_Order (Orderno, Odate, Customerno, Ord\_amt) VALUES ('O001', SYSDATE, 'C001', 100);

INSERT INTO Cust\_Order (Orderno, Odate, Customerno, Ord\_amt) VALUES ('O002', SYSDATE, 'C001', 200);

INSERT INTO Cust\_Order (Orderno, Odate, Customerno, Ord\_amt) VALUES ('O003', SYSDATE, 'C002', 150);

-- Inserting data into the Item table

INSERT INTO Item (Itemno, Item\_name, unit\_price) VALUES ('I001', 'Item A', 10);

INSERT INTO Item (Itemno, Item\_name, unit\_price) VALUES ('I002', 'Item B', 20);

-- Inserting data into the Order\_item table

INSERT INTO Order\_item (Orderno, Itemno, qty) VALUES ('O001', 'I001', 2);

INSERT INTO Order\_item (Orderno, Itemno, qty) VALUES ('O001', 'I002', 3);

INSERT INTO Order\_item (Orderno, Itemno, qty) VALUES ('O002', 'I001', 1);

1. SQL query to list the details of customers who have placed more than 3 orders:

SELECT c.Customerno, c.Cname

FROM Customer c

INNER JOIN Cust\_Order co ON c.Customerno = co.Customerno

GROUP BY c.Customerno, c.Cname

HAVING COUNT(co.Orderno) > 3;

1. SQL query to list details of items whose price is less than the average price of all items in each order:

SELECT oi.Orderno, i.Itemno, i.Item\_name, i.unit\_price

FROM Order\_item oi

INNER JOIN Item i ON oi.Itemno = i.Itemno

WHERE i.unit\_price < (

SELECT AVG(unit\_price)

FROM Order\_item o

INNER JOIN Item it ON o.Itemno = it.Itemno

WHERE o.Orderno = oi.Orderno

);

1. SQL query to list the orderno and number of items in each order:

SELECT Orderno, COUNT(Itemno) AS num\_items

FROM Order\_item

GROUP BY Orderno;

1. SQL query to list the details of items that are present in 25% of the orders:

SELECT i.Itemno, i.Item\_name, i.unit\_price

FROM Item i

WHERE (

SELECT COUNT(DISTINCT oi.Orderno)

FROM Order\_item oi

WHERE oi.Itemno = i.Itemno

) >= (

SELECT 0.25 \* COUNT(DISTINCT Orderno)

FROM Cust\_Order

);

1. Update statement to update the value of Ord\_amt:

UPDATE Cust\_Order

SET Ord\_amt = 500

WHERE Orderno = 'O001';

1. Creating a view to track the details of each customer and the number of orders placed:

CREATE VIEW Customer\_Order\_Count AS

SELECT c.Customerno, c.Cname, COUNT(co.Orderno) AS num\_orders

FROM Customer c

LEFT JOIN Cust\_Order co ON c.Customerno = co.Customerno

GROUP BY c.Customerno, c.Cname;