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Course : B.Tech CSE Core

Section : C

Semester : IV

Subject : Data Base Management System

Lab Assignment 1

```sql
-- Create the Customer table
CREATE TABLE Customer
(
    Cust_id INT PRIMARY KEY,
    cust_name VARCHAR(255) NOT NULL
);


-- Create the Item table
CREATE TABLE Item
(
    item_id INT PRIMARY KEY,
    item_name VARCHAR(255) NOT NULL,
    price DECIMAL(10, 2) NOT NULL CHECK (price > 0)
);


-- Create the Sale table
CREATE TABLE Sale
(
    bill_no INT PRIMARY KEY,
    bill_date DATE NOT NULL,
    cust_id INT,
    item_id INT,
    qty_sold INT NOT NULL CHECK (qty_sold > 0),
    FOREIGN KEY (cust_id) REFERENCES Customer(Cust_id),
    FOREIGN KEY (item_id) REFERENCES Item(item_id)
);
```

```sql
-- Insert sample data into the Customer table
   (add more records to have around 10)
INSERT INTO Customer
(Cust_id, cust_name) VALUES
(1, 'Alice'),
(2, 'Bob'),
(3, 'Charlie'),
(4, 'David'),
(5, 'Eve');


-- Insert sample data into the Item table
   (add more records to have around 10)
INSERT INTO Item
(item_id, item_name, price) VALUES
(101, 'Laptop', 1200.00),
(102, 'Mouse', 25.00),
(103, 'Keyboard', 75.00),
(104, 'Monitor', 300.00),
(105, 'Webcam', 50.00);


-- Insert sample data into the Sale table
   (add more records to have around 10)
INSERT INTO Sale
(bill_no, bill_date, cust_id, item_id, qty_sold) VALUES
(1, '2025-01-22', 1, 101, 1),
(2, '2025-01-22', 2, 102, 3),
(3, '2025-01-22', 1, 103, 1),
(4, '2025-01-22', 3, 104, 1),
(5, '2025-01-22', 4, 105, 2);


-- 3. List all the bills for the current date
     with the customer names and item numbers.
SELECT
    s.bill_no,
    s.bill_date,
    c.cust_name,
    i.item_id
FROM
    Sale s
JOIN
    Customer c ON s.cust_id = c.Cust_id
JOIN
    Item i ON s.item_id = i.item_id
WHERE
    s.bill_date = '2025-01-22';
```

```sql
-- 4. List the total bill details with the
--    quantity sold, price of the item, and the final amount.
SELECT
    s.bill_no,
    s.qty_sold,
    i.price,
    (s.qty_sold * i.price) AS final_amount
FROM
    Sale s
JOIN
    Item i ON s.item_id = i.item_id;




-- 5. List the details of the customer who have bought
--    a product which has a price > 200.
SELECT
    c.cust_name,
    i.item_name,
    i.price
FROM
    Customer c
JOIN
    Sale s ON c.Cust_id = s.cust_id
JOIN
    Item i ON s.item_id = i.item_id
WHERE
    i.price > 200;




-- 6. Give a count of how many products have been
--    bought by each customer.
SELECT
    c.cust_name,
    SUM(s.qty_sold) AS total_products_bought
FROM
    Customer c
LEFT JOIN
    Sale s ON c.Cust_id = s.cust_id
GROUP BY
    c.cust_name;
```

```sql
-- 7. Give a list of products bought by a customer
      having cust_id as 5.
SELECT
    i.item_name,
    s.qty_sold
FROM
    Sale s
JOIN
    Item i ON s.item_id = i.item_id
WHERE
    s.cust_id = 5;


-- 8. List the item details which are sold as of today.
SELECT
    i.item_name,
    i.price,
    SUM(s.qty_sold) AS total_quantity_sold
FROM
    Sale s
JOIN
    Item i ON s.item_id = i.item_id
WHERE
    s.bill_date = '2025-01-22'
GROUP BY
    i.item_name, i.price;
```