

Assignment – 2

Introducing Relational Databases.

1. Which field of the Customers table is the primary key?

The Cnum field is most likely the primary key of the CUSTOMERS table. Primary keys are unique identifiers for each row in a table. Given the context and common naming conventions, Cnum is a suitable candidate for the primary key.

2. What is the 4th column of the Customers table?

The 4th column of the CUSTOMERS table is Rating.

3. What is another word for row? For column?

Another word for row is record or attribute.

Another word for column is field or tuple.

4. Why isn't it possible to see the first five rows of a table?

It is generally possible to see the first five rows of a table using SQL query statements. For example, in most database systems, you can use the SELECT statement with a LIMIT clause to specify the number of rows to retrieve.

For instance, to see the first five rows of the CUSTOMERS table, you could use the following query:

```
SELECT * FROM CUSTOMERS LIMIT 5;
```

Assignment – 3 Overview of SQL.

- 1) Does ANSI recognize the data type DATE?

Yes, ANSI (American National Standard Institute) in SQL recognizes the DATE data type. It is designed to store date values, typically in the format YYYY-MM-DD, allowing for consistent date representation across different SQL implementations.

- 2) Which subdivision of SQL is used to insert values in tables?

The subdivision of SQL used to insert values into tables is called Data Manipulation Language (DML). The INSERT statement is specifically used to add new records to a table.

Assignment – 4 Retrieving Information from Tables.

- 1) Write a select command that produces the order number, amount, and date for all rows in the Orders table.

```
SELECT order_number, amount, order_date  
FROM Orders;
```

- 2) Write a query that produces all rows from the Customers table for which the salesperson's number is 1001.

```
SELECT * FROM Customers  
WHERE salesperson_number = 1001;
```

- 3) Write a query that displays the Salespeople table with the columns in the following order: city, sname, snum, comm.

```
SELECT city, sname, snum, comm  
FROM Salespeople;
```

- 4) Write a select command that produces the rating followed by the name of each customer in San Jose.

```
SELECT rating, customer_name  
FROM Customers  
WHERE city = 'San Jose';
```

- 5) Write a query that will produce the snum values of all salespeople (suppress the duplicates) with orders in the Orders table.

```
SELECT DISTINCT snum  
FROM Salespeople  
WHERE snum IN (SELECT salesperson_number FROM Orders);
```

Assignment – 5: Relational and Logical Operators

- 1) Write a query that will give you all orders for more than Rs. 1,000.

```
SELECT *  
FROM Orders  
WHERE amt > 1000;
```

- 2) Write a query that will give you the names and cities of all salespeople in London with a commission above .10.

```
SELECT sname, city  
FROM Salespeople  
WHERE city = 'London' AND comm > 0.10;
```

- 3) Write a query on the Customers table whose output will exclude all customers with a rating <= 100, unless they are located in Rome.

```
SELECT *  
FROM Customers  
WHERE rating > 100 OR city = 'Rome';
```

- 4) What will be the output from the following query?

```
Select * from Orders where (amt < 1000 OR NOT (odate = '1990-10-03' AND cnum > 2003));
```

This query will return all orders where either the amount is less than Rs. 1,000 or the order date is not '1990-10-03' with a customer number greater than 2003.

- 5) What will be the output of the following query?

```
Select * from Orders where NOT ((odate = '1990-10-03' OR snum > 1006) AND amt >= 1500);
```

This query will return all orders except those where the order date is '1990-10-03' or the salesperson number is greater than 1006 and the amount is Rs. 1,500 or more.

- 6) What is a simpler way to write this query?

```
Select snum, sname, city, comm From Salespeople where (comm > .12 OR comm < .14);
```

Since the condition `comm < 0.14` is unnecessary because it doesn't restrict the result set further, we can simplify it to just check for `comm > 0.12`.

Assignment – 6 Using Special Operators in Conditions

- 1) Write two different queries that would produce all orders taken on October 3rd or 4th, 1990.

```
SELECT * FROM ORDERS
WHERE Odate IN ('1990-10-03', '1990-10-04');
```

OR

```
SELECT * FROM ORDERS
WHERE Odate BETWEEN '1990-10-03' AND '1990-10-04';
```

- 2) Write a query that selects all of the customers serviced by Peel or Motika. (Hint: the snum field relates the two tables to one another).

```
SELECT * FROM CUSTOMER
WHERE snum IN (
    SELECT snum
    FROM salespeople
    WHERE sname = 'Peel' or sname = 'Motika'
);
```

- 3) Write a query that will produce all the customers whose names begin with a letter from 'A' to 'G'

```
SELECT * FROM CUSTOMERS
WHERE Cname BETWEEN 'A' AND 'G';
```

- 4) Write a query that selects all customers whose names begin with the letter 'C'.

```
SELECT * FROM CUSTOMERS
WHERE Cname LIKE 'C%';
```

- 5) Write a query that selects all orders except those with zeroes or NULLs in the amt field.

```
SELECT * FROM ORDERS
WHERE Amt > 0;
```