

**Table Name:** SALES\_ORDER

**Description:** Used to store client's orders.

Column Name	Data Type	Size	Default	Attributes
ORDERNO	Varchar2	6		Primary Key / first letter must start with 'O'
CLIENTNO	Varchar2	6		Foreign Key references ClientNo of Client_Master table
ORDERDATE	Date			Not Null
DELYADDR	Varchar2	25		
SALESMANNO	Varchar2	6		Foreign Key references SalesmanNo of Salesman_Master table
DELYTYPE	Char	1	F	Delivery: part (P) / full (F)
BILLYN	Char	1		
DELYDATE	Date			Cannot be less than Order_Date
ORDERSTATUS	Varchar2	10		Values ('In Process', 'Fulfilled', 'BackOrder', 'Cancelled')

**Table Name:** SALES\_ORDER\_DETAILS

**Description:** Used to store client's orders with details of each product ordered.

Column Name	Data Type	Size	Default	Attributes
ORDERNO	Varchar2	6		Foreign Key references OrderNo of Sales_Order table
PRODUCTNO	Varchar2	6		Foreign Key references ProductNo of Product_Master table
QTYORDERED	Number	8		
QTYDISP	Number	8		
PRODUCTRATE	Number	10,2		

**2. Insert the following data into their respective tables:**

a) Re-insert the data generated for tables CLIENT\_MASTER, PRODUCT\_MASTER, and SALESMAN\_MASTER. Refer to hands-on exercised for **Chapter 07: Interactive SQL-Part I**.

b) Data for Sales\_Order table:

OrderNo	ClientNo	OrderDate	SalesmanNo	DelyType	BillYN	DelyDate	OrderStatus
O19001	C00001	12-June-04	S00001	F	N	20-July-02	In Process
O19002	C00002	25-June-04	S00002	P	N	27-June-02	Cancelled
O46865	C00003	18-Feb-04	S00003	F	Y	20-Feb-02	Fulfilled
O19003	C00001	03-Apr-04	S00001	F	Y	07-Apr-02	Fulfilled
O46866	C00004	20-May-04	S00002	P	N	22-May-02	Cancelled
O19008	C00005	24-May-04	S00004	F	N	26-July-02	In Process

c) Data for Sales\_Order\_Details table:

OrderNo	ProductNo	QtyOrdered	QtyDisp	ProductRate
O19001	P00001	4	4	525
O19001	P07965	2	1	8400
O19001	P07885	2	1	5250
O19002	P00001	10	0	525
O46865	P07868	3	3	3150
O46865	P07885	3	1	5250
O46865	P00001	10	10	525
O46865	P0345	4	4	1050
O19003	P03453	2	2	1050
O19003	P06734	1	1	12000
O46866	P07965	1	0	8400
O46866	P07975	1	0	1050
O19008	P00001	10	5	525
O19008	P07975	5	3	1050



24. LPAD returns the string passed as a parameter after left padding it to a specified length.
25. The TO\_CHAR (date conversion) converts a value of a NUMBER datatype to a character datatype, using the optional format string.
26. The DATE data type is used to store date and time information.
27. The TO\_DATE() function also disallows part insertion of a DATE value into a column.
28. The ADD\_MONTHS function returns date after adding the number of months specified in the function.
29. The TO-DATE function allows a user to insert date into a date column in any required format, by specifying the character value of the date to be inserted and its format.

## HANDS ON EXERCISES

Using the tables created previously generate the SQL statements for the operations mentioned below. The tables in user are as follows:

- a. Client\_Master
- b. Product\_Master
- c. Salesman\_Master
- d. Sales\_Order
- e. Sales\_Order\_Details

### 1. Perform the following computations on table data:

- a. List the names of all clients having 'a' as the second letter in their names.
- b. List the clients who stay in a city whose First letter is 'M'.
- c. List all clients who stay in 'Bangalore' or 'Mangalore'.
- d. List all clients whose BalDue is greater than value 10000.
- e. List all information from the Sales\_Order table for orders placed in the month of June.
- f. List the order information for ClientNo 'C00001' and 'C00002'.
- g. List products whose selling price is greater than 500 and less than or equal to 750.
- h. List products whose selling price is more than 500. Calculate a new selling price as, original selling price \* .15. Rename the new column in the output of the above query as new\_price.
- i. List the names, city and state of clients who are not in the state of 'Maharashtra'.
- j. Count the total number of orders.
- k. Calculate the average price of all the products.
- l. Determine the maximum and minimum product prices. Rename the output as max\_price and min\_price respectively.
- m. Count the number of products having price less than or equal to 500.
- n. List all the products whose QtyOnHand is less than reorder level.

### 2. Exercise on Date Manipulation:

- a. List the order number and day on which clients placed their order.
- b. List the month (in alphabets) and date when the orders must be delivered.
- c. List the OrderDate in the format 'DD-Month-YY'. e.g. 12-February-02.
- d. List the date, 15 days after today's date.

12. In the union clause multiple queries can be put together but their outputs cannot be combined.
13. Unions can be used in subqueries.
14. The Intersect clause outputs only rows produced by both the queries intersected.
15. The Minus clause outputs the rows produced by the first query, before filtering the rows retrieved by the second query.

## HANDS ON EXERCISES

### 1. Exercises on using Having and Group By Clauses:

- Print the description and total qty sold for each product.
- Find the value of each product sold.
- Calculate the average qty sold for each client that has a maximum order value of 15000.00.
- Find out the total of all the billed orders for the month of June.

### 2. Exercises on Joins and Correlation:

- Find out the products, which have been sold to 'Ivan Bayross'.
- Find out the products and their quantities that will have to be delivered in the current month.
- List the ProductNo and description of constantly sold (i.e. rapidly moving) products.
- Find the names of clients who have purchased 'Trousers'.
- List the products and orders from customers who have ordered less than 5 units of 'Pull Overs'.
- Find the products and their quantities for the orders placed by 'Ivan Bayross' and 'Mamta Muzumdar'.
- Find the products and their quantities for the orders placed by ClientNo 'C00001' and 'C00002'.

### 3. Exercise on Sub-queries:

- Find the ProductNo and description of non-moving products i.e. products not being sold.
- List the customer Name, Address1, Address2, City and PinCode for the client who has placed order no 'O19001'.
- List the client names that have placed orders before the month of May'02.
- List if the product 'Lycra Top' has been ordered by any client and print the Client\_no, Name to whom it was sold.
- List the names of clients who have placed orders worth Rs. 10000 or more.