

SQL Command Tutorials

-:: DBMS LAB ASSIGNMENT::-

QUESTION:

A) Define the schema for the following databases with specific data type and constraints, the table name and its fields name are to be taken from database description which are given below :

Q.1. A database is being constructed for storing sales information system. A product can be described with a unique product number, product name, selling price, manufacturer name. The product can sale to a particular client and each client have it own unique client number, client name, client addresses, city, pin code, state and total balance to be required to paid. Each client order to buy product from the salesman. In the order, it has unique sales order number, sales order date, client number, salesman number (unique), billed whole payment by the party or not and its delivery date. The salesman have the name, addresses, city, pin code, state, salary of the sales man, delivery date, total quantity ordered, product rate.

Q.1.1. Write the SQL queries for the following –

- (a) Retrieve the list of names and the cities of all the clients.
- (b) List the various products available.
- (c) Find the names of all clients having 'a' as the second letter in their names.
- (d) List all the clients who are located in TEZPUR.
- (e) Find the products whose selling price is greater than 2000 and less than or equal to 5000
- (f) Add a new column NEW_PRICE into the product_master table.
- (g) Rename the column product_rate of Sales_Order_Details to new_product_rate.
- (h) List the products in sorted order of their description.
- (i) Display the order number and date on which the clients placed their order.
- (j) Delete all the records having delivery date before 25th August, 2008.
- (k) Change the delivery date of order number ON01008 to 16-08-08
- (l) Change the bal_due of client_no CN01003 to 1200
- (m) Find the product with description as 'HDD1034' and 'DVDRW'
- (n) List the names, city and state of the clients not in the state of 'ASSAM'
- (o) List of all orders that were canceled in the of March.

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Solutions:

Command to Create Tables:-

Create table product (product_id varchar(10) primary key, product_name varchar(20), manufacturer_name char(20),product_rate number(9,4), sell_price number(9,4),product_description varchar(25));

Create table client (client_id varchar(10) primary key, client_name char(20),address varchar(15), city char(15),pin number(8), state char(15),bal_due number(9,4));

Create table salesman (salesman_id varchar(10) primary key, salesman_name char(20),address varchar(15), city char(15),pin number(8), state char(15),salary number(9,4));

Create table sales_order_details (sales_order_no varchar(10) primary key, sales_order_date date, client_id varchar(10) references client(client_id), salesman_id varchar(10) references salesman(salesman_id) , **bill_payby_party char(5)**, delivery_date date,product_rate number(9,4), tot_quantity_order number(8),cancel_date date default NULL);

Command to See Tables:-

SQL> Desc product;

Name	Null?	Type
PRODUCT_ID	NOT NULL	VARCHAR2(10)
PRODUCT_NAME		VARCHAR2(20)
MANUFACTURER_NAME		CHAR(20)
PRODUCT_RATE		NUMBER(9,4)
SELL_PRICE		NUMBER(9,4)
PRODUCT_DESCRIPTION		VARCHAR2(25)

SQL> Desc client;

Name	Null?	Type
CLIENT_ID	NOT NULL	VARCHAR2(10)
CLIENT_NAME		CHAR(20)
ADDRESS		VARCHAR2(15)
CITY		CHAR(15)
PIN		NUMBER(8)
STATE		CHAR(15)
BAL_DUE		NUMBER(9,4)

SQL> Desc salesman;

Name	Null?	Type
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SALESMAN_ID	NOT NULL VARCHAR2(10)
SALESMAN_NAME	CHAR(20)
ADDRESS	VARCHAR2(15)
CITY	CHAR(15)
PIN	NUMBER(8)
STATE	CHAR(15)
SALARY	NUMBER(9,4)

SQL> Desc sales_order_details;

Name	Null?	Type
SALES_ORDER_NO	NOT NULL	VARCHAR2(10)
SALES_ORDER_DATE		DATE
CLIENT_ID		VARCHAR2(10)
SALESMAN_ID		VARCHAR2(10)
BILL_PAYBY_PARTY		CHAR(5)
DELIVERY_DATE		DATE
PRODUCT_RATE		NUMBER(9,4)
TOT_QUANTITY_ORDER		NUMBER(8)
CANCEL_DATE		DATE

Command to Insert values in Tables:

Insert into product values('p001','lux_soap','Lux_international','15.67','20.43','soap');
 Insert into product values('p002','copy','times_copy_org','14.80','16.40','copy');
 Insert into product values('p003','marry_biscuit','marigold_org','2218.80','2220.40','buiskit');
 Insert into product values('p004','mitsubisi_pen','pen_international','2015.67','2120.43','pen');
 Insert into product values('p005','learn_books','book_world','5104.80','5116.40','book');
 Insert into product values('p006','tata_steel','tata_org','5118.80','5120.40','tata');
 Insert into product values('p007','seagate hdd','seaget_world','5104.80','5116.40','**HDD1034**');
 Insert into product values('p008','dvd writer','frontec_org','5118.80','5120.40','**DVDRW**');

Insert into client values('cn01001','alak roy',' b.d.para',' amarpur','799101','tripura','390.9');
 Insert into client values('cn01002','suman roy',' puk para',' agartala','799102','tripura','2390.9');
 Insert into client values('cn01004','priya das',' chora para','kamalpur','799301','tripura','1390.9');
 Insert into client values('cn01005','mita mia',' kamal para','singur','799721','tripura','190.9');
 Insert into client values('cn01006','pulak roy',' bircity','sonitpur','799141','assam','110.9');
 Insert into client values('cn01007','munni das',' nappam','sonitpur','799152','assam','190.9');
 Insert into client values('cn01008','kusum roy',' city_dos','tezpur','799141','assam','110.9');
 Insert into client values('cn01009','mina das',' pachmile','tezpur','799152','assam','190.9');
 Insert into client values('cn01003','moytree nayak',' pachmile','tezpur','799152','assam','9990.9');
 Insert into client values('cn01010','pauri mia',' pachmile','tezpur','799152','assam','2990.9');
 Insert into client values('cn01011','manali das',' satmile','tezpur','799154','assam','3990.9');

Insert into salesman values('s001','Rohan das','nappam','Tezpur','79970','Assam','8000');

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Insert into salesman values('s002','Rohan das','nappam','Tezpur','799170','Assam','8000');
Insert into salesman values('s003','Smita das','nirjuli','itanagar','799701','Arunachal','9000');
Insert into salesman values('s004','Kabir bora','nappam','Tezpur','799703','Assam','8500');
Insert into salesman values('s005','Neha singh','borbota','sonitpur','795970','assam','9600');
Insert into salesman values('s006','Priya agarwal','gandhi road','32 distric','799750','delhi','9900');
Insert into salesman values('s007','Ashok Paul','filmcity','munnabari','799740','mumbai','8900');

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Insert into sales_order_details values('on01001','01-aug-2008','cn01001','s001','yes','20-aug-2008',
'2220.40','50','');
Insert into sales_order_details values('on01002','12-aug-2008','cn01004','s001','yes','23-aug-2008',
'2220.40','15','');
Insert into sales_order_details values('on01003','12-aug-2008','cn01005','s003','yes','26-aug-2008',
'2220.40','10','');
Insert into sales_order_details values('on01004','13-aug-2008','cn01004','s001','yes','20-aug-2008',
'2220.40','15','');
Insert into sales_order_details values('on01005','14-aug-2008','cn01002','s002','no','30-aug-2008',
'2220.40','52','28-march-2008');
Insert into sales_order_details values('on01006','15-aug-2008','cn01001','s001','yes','31-aug-2008',
'2220.40','53','');
Insert into sales_order_details values('on01007','16-jan-2008','cn01003','s004','yes','28-aug-2008',
'2220.40','54','');
Insert into sales_order_details values('on01008','01-feb-2008','cn01004','s003','no','28-aug-2008',
'8220.40','54','18-march-2008');

```

Command to get values from Tables:

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Select * from client;
Select * from product;
Select * from salesman;
Select * from sales_order_details;

```

Q.1.1. Write the SQL queries for the following –

(a) Retrieve the list of names and the cities of all the clients.

SQL> Select client_name, city from client;

CLIENT_NAME	CITY
alak roy	amarpur
suman roy	agartala
priya das	kamalpur
mita mia	singur
pulak roy	sonitpur

```

munni das      sonitpur
kusum roy      tezpur
mina das       tezpur
moytree nayak  tezpur
pauri mia      tezpur
manali das     tezpur

```

11 rows selected.

(b) List the various products available.

SQL> **Select * from product;**

PRODUCT_ID	PRODUCT_NAME	MANUFACTURER_NAME	PRODUCT_RATE	SELL_PRICE	PRODUCT_DESCRIPTION
p001	lux_soap	Lux_international	15.67	20.43	soap
p005	learn_books	book_world	5104.8	5116.4	book
p006	tata_steel	tata_org	5118.8	5120.4	tata
p007	seagate hdd	seaget_world	5104.8	5116.4	HDD1034
p008	dvd writer	frontec_org	5118.8	5120.4	DVDRW
p003	marry_biscuit	marigold_org	2218.8	2220.4	buiskit
p004	mitsubisi_pen	pen_international	2015.67	2120.43	pen

(c) Find the names of all clients having 'a' as the second letter in their names.

SQL> **SELECT client_name FROM client WHERE client_name LIKE '_a%';**

CLIENT_NAME

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pauri mia
manali das

```

(d) List all the clients who are located in TEZPUR.

SQL> **SELECT * FROM client WHERE city ='tezpur';**

CLIENT_ID	CLIENT_NAME	ADDRESS	CITY	PIN	STATE	BAL_DUE
cn01008	kusum roy	city_dos	tezpur	799141	assam	110.9
cn01009	mina das	pachmile	tezpur	799152	assam	190.9
cn01003	moytree nayak	pachmile	tezpur	799152	assam	9990.9

cn01010	pauri mia	pachmile	tezpur	799152	assam	2990.9
cn01011	manali das	satmile	tezpur	799154	assam	3990.9

(e) Find the products whose selling price is greater than 2000 and less than or equal to 5000

**SQL> SELECT * FROM product WHERE sell_price > 2000 AND (sell_price < 5000 OR
2 sell_price = 5000);**

PRODUCT_ID	PRODUCT_NAME	MANUFACTURER_NAME	PRODUCT_RATE	SELL_PRICE	PRODUCT_DESCRIPTION
p003	marry_biscuit	marigold_org	2218.8	2220.4	buiskit
p004	mitsubishi_pen	pen_international	2015.67	2120.43	pen

(f) Add a new column NEW_PRICE into the product_master table.

SQL> ALTER TABLE product ADD (new_price number(9,4));

Table altered.

SQL> desc product;

Name	Null?	Type
PRODUCT_ID	NOT NULL	VARCHAR2(10)
PRODUCT_NAME		VARCHAR2(20)
MANUFACTURER_NAME		CHAR(20)
PRODUCT_RATE		NUMBER(9,4)
SELL_PRICE		NUMBER(9,4)
PRODUCT_DESCRIPTION		VARCHAR2(25)
NEW_PRICE		NUMBER(9,4)

(g) Rename the column product_rate of Sales_Order_Details to new_product_rate.

SQL> desc Sales_Order_Details ;

Name	Null?	Type
SALES_ORDER_NO	NOT NULL	VARCHAR2(10)
SALES_ORDER_DATE		DATE
CLIENT_ID		VARCHAR2(10)
SALESMAN_ID		VARCHAR2(10)
BILL_PAYBY_PARTY		CHAR(5)
DELIVERY_DATE		DATE

PRODUCT_RATE	NUMBER(9,4)
TOT_QUANTITY_ORDER	NUMBER(8)
CANCEL_DATE	DATE

SQL> ALTER table Sales_Order_Details RENAME column product_rate to new_product_rate;

Table altered.

SQL> desc Sales_Order_Details;

Name	Null?	Type
SALES_ORDER_NO	NOT NULL	VARCHAR2(10)
SALES_ORDER_DATE		DATE
CLIENT_ID		VARCHAR2(10)
SALESMAN_ID		VARCHAR2(10)
BILL_PAYBY_PARTY		CHAR(5)
DELIVERY_DATE		DATE
NEW_PRODUCT_RATE		NUMBER(9,4)
TOT_QUANTITY_ORDER		NUMBER(8)
CANCEL_DATE		DATE

(h) List the products in sorted order of their description.

SQL> SELECT * FROM product ORDER BY PRODUCT_DESCRIPTION ASC;

PRODUCT_ID	PRODUCT_NAME	MANUFACTURER_NAME	PRODUCT_RATE	SELL_PRICE	PRODUCT_DESCRIPTION	NEW_PRICE
p008	dvd writer	frontec_org	5118.8	5120.4	DVDRW	
p007	seagate hdd	seaget_world	5104.8	5116.4	HDD1034	
p005	learn_books	book_world	5104.8	5116.4	book	
p003	marry_biscuit	marigold_org	2218.8	2220.4	buiskit	
p004	mitsubisi_pen	pen_international	2015.67	2120.43	pen	
p001	lux_soap	Lux_international	15.67	20.43	soap	
p006	tata_steel	tata_org	5118.8	5120.4	tata	

(i) Display the order number and date on which the clients placed their order.

SQL> SELECT sales_order_no, sales_order_date FROM Sales_Order_Details;

SALES_ORDE SALES_ORD

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on01001  01-AUG-08
on01003  12-AUG-08
on01004  13-AUG-08
on01005  14-AUG-08
on01006  15-AUG-08
on01007  16-JAN-08
on01008  01-FEB-08
```

7 rows selected.

(j) Delete all the records having delivery date before 25th August, 2008.

SQL> DELETE FROM sales_order_details WHERE delivery_date < '25-aug-2008';

2 rows deleted.

SQL> Select * from sales_order_details;

SALES_ORDE	SALES_ORD	CLIENT_ID	SALESMAN_I	BILL_	DELIVERY_	NEW_PRODUCT_RATE	
TOT_QUANTITY_ORDER	CANCEL_DA						
on01003	12-AUG-08	cn01005	s003	yes	26-AUG-08	2220.4	10
on01005	14-AUG-08	cn01002	s002	no	30-AUG-08	2220.4	52 28-MAR-08
on01006	15-AUG-08	cn01001	s001	yes	31-AUG-08	2220.4	53
on01007	16-JAN-08	cn01003	s004	yes	28-AUG-08	2220.4	54
on01008	01-FEB-08	cn01004	s003	no	28-AUG-08	8220.4	54 18-MAR-08

(k) Change the delivery date of order number ON01008 to 16-08-08

SQL> UPDATE sales_order_details SET delivery_date = '16-aug-08' WHERE sales_order_no = 'on01008';

1 row updated.


```
SQL> select * from sales_order_details sales_order_details WHERE sales_order_no = 'on01008';
SALES_ORDE SALES_ORD CLIENT_ID SALESMAN_I BILL_DELIVERY_NEW_PRODUCT_RATE TOT_QUANTITY_ORDER CANCEL_DA
-----
on01008 01-FEB-08 cn01004 s003 no 16-AUG-08 8220.4 54 18-MAR-08
```

(l) Change the bal_due of client_no CN01003 to 1200

CLIENT_ID	CLIENT_NAME	ADDRESS	CITY	PIN	STATE	BAL_DUE
CN01003	moytree nayak	pachmile	tezpur	799152	assam	9990.9

```
SQL> UPDATE client SET bal_due = '1200' WHERE client_id = 'cn01003';
1 row updated.
```

```
SQL> select * from client where client_id = 'cn01003';
```

CLIENT_ID	CLIENT_NAME	ADDRESS	CITY	PIN	STATE	BAL_DUE
cn01003	moytree nayak	pachmile	tezpur	799152	assam	1200

(m) Find the product with description as 'HDD1034' and 'DVDRW'

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SQL>
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```
SELECT * FROM product where product_description='HDD1034' OR product_description='
DVDRW';
```

PRODUCT_ID	PRODUCT_NAME	MANUFACTURER_NAME	PRODUCT_RATE	SELL_PRICE	NEW_PRICE	PRODUCT_DESCRIPTION
p007	seagate hdd	seaget_world	5104.8	5116.4	5000	HDD1034
p008	dvd writer	frontec_org	5118.8	5120.4	2000	DVDRW

(n) List the names, city and state of the clients not in the state of 'ASSAM'

```
SQL> SELECT client_name,city,state FROM client WHERE NOT state ='assam';
```

CLIENT_NAME	CITY	STATE
alak roy	amarapur	tripura
suman roy	agartala	tripura
priya das	kamalpur	tripura
mita mia	singur	tripura

(o) List of all orders that were canceled in the of March.

SQL> Select * from sales_order_details where cancel_date LIKE '%-MAR-%';

SALES_ORDE SALES_ORD CLIENT_ID SALESMAN_I BILL_ DELIVERY_ NEW_PRODUCT_RATE

on01005 14-AUG-08 cn01002 s002 no 30-AUG-08 2220.4 52 28-MAR-08
on01008 01-FEB-08 cn01004 s003 no 16-AUG-08 8220.4 54 18-MAR-08

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