**CREATING DATABASE:**

* CREATE DATABASE database\_2;

**CREATING TABLES:**

1. CLIENTMASTER :
   * CREATE TABLE CLIENTMASTER(

CLIENTNO VARCHAR(6) check(clientno like 'C%'),

NAME VARCHAR(20) NOT NULL,

ADDRESS1 VARCHAR(30),

ADDRESS2 VARCHAR(30),

CITY VARCHAR(15),

PINCODE INT(8),

STATE VARCHAR(15),

BALDUE decimal(10,2),

primary key(clientno));

1. PRODUCTMASTER :
   * CREATE TABLE PRODUCTMASTER(

PRODUCTNO VARCHAR(6) CHECK (PRODUCTNO LIKE 'P%'),

DESCRIPTION VARCHAR(15) NOT NULL,

PROFITPERCENT DECIMAL(4,2) NOT NULL,

UNITMASTER VARCHAR(10) NOT NULL,

QTYONHAND INT(8) NOT NULL,

REORDERLVL INT(8) NOT NULL,

SELLPRICE DECIMAL(8,2) NOT NULL CHECK (SELLPRICE <>0),

COSTPRICE DECIMAL(8,2) NOT NULL CHECK (COSTPRICE <>0),

PRIMARY KEY(PRODUCTNO));

1. SALESMANMASTER :
   * CREATE TABLE SALESMANMASTER(

SALESMANNO VARCHAR(6) CHECK(SALESMANNO LIKE 'S%'),

SALESMANNAME VARCHAR(20) NOT NULL,

ADDRESS1 VARCHAR(30) NOT NULL,

ADDRESS2 VARCHAR(30),

CITY VARCHAR(20),

PINCODE INT(8),

STATE VARCHAR(20),

SALAMT DECIMAL(8,2) NOT NULL CHECK(SALAMT <>0),

TGTTOGET DECIMAL(6,2) NOT NULL CHECK(TGTTOGET <>0),

YTDSALES DECIMAL(6,2) NOT NULL CHECK(YTDSALES <>0),

REMARKS VARCHAR(60),

PRIMARY KEY(SALESMANNO));

1. SALES\_ORDER\_DETAILS:

CREATE TABLE SALES\_ORDER\_DETAILS(

ORDERNO VARCHAR(6) ,

PRODUCTNO VARCHAR(6),

QTYORDERED INT,

QTYDISP INT,

PRODUCTRATE DECIMAL(10,2),

FOREIGN KEY (ORDERNO) REFERENCES SALES\_ORDER(ORDERNO),

FOREIGN KEY (PRODUCTNO) REFERENCES PRODUCTMASTER(PRODUCTNO)

);

1. SALES\_ORDER:
   * CREATE TABLE SALES\_ORDER(

ORDERNO VARCHAR(6) CONSTRAINT C1 CHECK (ORDERNO LIKE 'O%'),

CLIENTNO VARCHAR(6),

ORDERDATE DATE NOT NULL,

DELYADDR VARCHAR(25) ,

SALESMANNO VARCHAR(6),

DELYTYPE CHAR(1) DEFAULT 'F', CONSTRAINT C2 CHECK(DELYTYPE LIKE 'P' OR DELYTYPE LIKE 'F'),

BIILYN CHAR(1),

DELYDATE DATE,

ORDERSTATUS VARCHAR(10) CONSTRAINT C3 CHECK(ORDERSTATUS IN ('INPROCESS','FULFILLED','BACKORDER','CANCELLED')),

PRIMARY KEY(ORDERNO),

FOREIGN KEY (CLIENTNO) REFERENCES CLIENTMASTER(CLIENTNO),

FOREIGN KEY (SALESMANNO) REFERENCES SALESMANMASTER(SALESMANNO),

CONSTRAINT c4 CHECK(delydate > orderdate)

);

**INSERT QUERIES FOR CLIENTMASTER:**

* + INSERT INTO CLIENTMASTER(CLIENTNO, NAME, CITY, PINCODE,STATE,BALDUE) VALUES ('C00001','Rakesh Joshi','Mumbai','400054','Maharashtra' , '15000'), ('C00002','Mayur Patel','Madras','780001','Tamilnadu' , '0'), ('C00003','Ishita Mehta','Mumbai','400057','Maharashtra' , '5000'), ('C00004','Amit Solanki','Bangalore','560001','Karnataka' , '0'), ('C00005','Hiren Pandya','Mumbai','400060','Maharashtra' , '2000'), ('C00006','Dipak Sharma','Mangalore','560050','Karnataka' , '0');

**INSERT QUERIES FOR PRODUCTMASTER:**

* + INSERT INTO PRODUCTMASTER(PRODUCTNO , DESCRIPTION , PROFITPERCENT , UNITMASTER ,QTYONHAND ,REORDERLVL , SELLPRICE , COSTPRICE ) VALUES ('P00001','T-Shirts','5','Piece','200' , '50', '350' , '250'), ('P0345','Shirts','6','Piece','150' , '50', '500' , '350'), ('P06734','Cotton Jeans','5','Piece','100' , '20', '600' , '450'), ('P07865','Jeans','5','Piece','100' , '20', '750' , '500'), ('P07868','Trousers','2','Piece','150' , '50', '850' , '550'), ('P07885','Pull Overs','2.5','Piece','80' , '30', '700' , '450'), ('P07965','Denim Shirts','4','Piece','100' , '40', '350' , '250'), ('P07975','Lycra Tops','5','Piece','70' , '30', '300' , '175'), ('P08865','Skirts','5','Piece','75' , '30', '450' , '300');

**INSERT QUERIES FOR SALESMANMASTER:**

* + **INSERT INTO SALESMANMASTER (SALESMANNO, SALESMANNAME, ADDRESS1, ADDRESS2, CITY, PINCODE, STATE, SALAMT, TGTTOGET, YTDSALES, REMARKS) VALUES ('S00001', 'Aman', 'A/14','Worli','Mumbai', '400002' , 'Maharashtra', '3000' , '100' , '50', 'Good'), ('S00002', 'Omkar','65','Nariman','Mumbai','400001' , 'Maharashtra', '3000' , '200' , '100', 'Good'),('S00003', 'Raj','P-7','Bandra','Mumbai','400032' , 'Maharashtra', '3000' , '200' , '100', 'Good'), ('S00004', 'Ashish' , 'A/5','Juhu','Mumbai','400044' , 'Maharashtra', '3000' , '200' , '100', 'Good');**

**INSERT QUERIES FOR SALES\_ORDER:**

**INSERT INTO SALES\_ORDER(ORDERNO,CLIENTNO,ORDERDATE,SALESMANNO,DELYTYPE,BIILYN,DELYDATE,ORDERSTATUS)**

**VALUES** **("O19001","C00001","04-06-24","S00001","F","N","04-06-27","INPROCESS"),**

**('O19002','C00002','04-06-25','S00002','P','N','04-06-27','CANCELLED'),**

**('O46865','C00003','04-02-18','S00003','F','Y','04-02-20','FULFILLED'),**

**('O19003','C00004','04-04-03','S00001','F','Y','04-04-07','FULFILLED'),**

**('O46866','C00005','04-05-20','S00002','P','N','04-05-22','CANCELLED'),**

**('O19008','C00006','04-05-24','S00004','F','N','04-07-26','FULFILLED');**

**INSERT QUERIES FOR SALES\_ORDER\_DETAILS:**

**INSERT INTO SALES\_ORDER\_DETAILS (ORDERNO, PRODUCTNO, QTYORDERED, QTYDISP, PRODUCTRATE) VALUES**

**('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', 'P06734', '1','1', '12000'),**

**('O46866', 'P07965', '1','0', '8400'),**

**('O46866', 'P07975', '1','0', '1050'),**

**('O19008', 'P00001', '10','5', '525'),**

**('O19008', 'P07975', '5','3', '1050');**

**('O19003', 'P03453', '2','2', '1050'),**

**Above row is not inserted in table**

**EXERCISE A:**

1. List the names of all clients having ‘a’ as the second letter in their names.
   * select name from clientmaster where name like ("\_a%");
2. List the clients who stay in a city whose First letter is ‘M.
   * select name from clientmaster where city like ("m%");
3. List all the clients who stay in ‘Bangalore’ or ‘Mangalore’.
   * select name from clientmaster where city in ("bangalore" , "mangalore");
4. List all clients whose BalDue is greater then value 10000.
   * select name from clientmaster where BALDUE >10000;
5. List all information from the Sales\_Order table for orders placed in the month of June.
   * select \* from sales\_order where month(orderdate) = 06;
6. List the order information for ClientNo. ‘C00001’ and ‘C00002’.
   * select \* from sales\_order where clientno in ('C00001' , 'C00002');
7. List products whose selling price is greater than 500 and less than or equal to 750.
   * select description from productmaster where sellprice>500 and sellprice<=750;
8. List product whose selling price is more than 500.
   * select description from productmaster where sellprice>500;
9. Calculate a new selling price as, original selling price \*0.15
   * alter table productmaster add column new\_sellprice decimal(8,2) ;
   * update productmaster set new\_sellprice = (sellprice\*0.15);
10. Rename the new column in the output of the above query as new\_price.
    * alter table productmaster rename column new\_sellprice to new\_price;
11. List the names, city and state of clients who are not in the state of ‘Maharashtra’.
    * select name,city,state from clientmaster where state<>"Maharashtra";
12. Calculate the average price of all the products.
    * select avg(sellprice), avg(costprice) from productmaster;
13. Determine the maximum and minimum product prices. Rename the output as max\_price and min\_price respectively.
    * select max(sellprice) as MAX\_PRICE, min(sellprice) as MIN\_PRICE from productmaster;
14. Count the number of products having price less than or equal to 500.
    * select count(description) as count from productmaster where costprice <=500;
15. List all the products whose QtyOnHand is less than reorder level.
    * select description from productmaster where qtyonhand < reorderlvl;

**[B] Exercise on Date Manipulation:**

1. List the order number and day on which clients placed their order.
   * select orderno, day(orderdate) from sales\_order;
2. List the month (in alphabets) and date when the orders must be delivered.
   * select delydate, monthname(delydate) from sales\_order;
3. List the Order Date in the format ‘DD-Month-YY’. E.g. 20-November-02.
   * select date\_format(orderdate, "%e-%M-%y") from sales\_order;
4. List the date, 15 days after today’s date.
   * select date\_add(current\_date(), interval 15 day);

**[C] Exercise on using Having and Group By Clauses:**

1. Print the description and total qty sold for each product.
   * select description, sum(qtyordered) from productmaster join sales\_order\_details on productmaster.PRODUCTNO = sales\_order\_details.PRODUCTNO group by (description);
2. Find the values of each product sold.
   * Fsdfds
3. Calculate the average qty sold for each client that has maximum order value of 15000.00.
   * Sad
4. Find out the total of all the billed orders for the month of June
   * Sd

**[D] Exercise on Joins and Correlation:**

1. Find out the products, which have been sold to ‘Rakesh Joshi’.
   * select p.description from clientmaster c, productmaster p, sales\_order so, sales\_order\_details sd where c.CLIENTNO = so.CLIENTNO and p.PRODUCTNO = sd.PRODUCTNO and so.ORDERNO = sd.ORDERNO and name="Rakesh Joshi";
2. Find out the products and their quantities that will have to be delivered in the current month.
   * select p.description, s.QTYORDERED from productmaster p join (sales\_order\_details s join sales\_order so on s.orderno=so.orderno) on p.PRODUCTNO = s.PRODUCTNO where month(so.DELYDATE)=month(current\_date());
3. List the ProductNo and description of constantly sold (i.e. rapidly moving) products.
   * select p.productno, description, sum(QTYORDERED) from productmaster p,sales\_order\_details s where p.PRODUCTNO = s.PRODUCTNO group by DESCRIPTION,p.PRODUCTNO order by sum(QTYORDERED) desc;
4. Find the names of clients who have purchased ‘Trousers’
   * select name from clientmaster c join (sales\_order\_details so join sales\_order s on so.orderno=s.orderno) on c.CLIENTNO = s.CLIENTNO where productno="P07868";
5. List the products and orders from customers who have ordered less than 5 units of ‘Pull Overs’.
   * select description, orderno from productmaster p join sales\_order\_details s on p.PRODUCTNO = s.PRODUCTNO where s.QTYORDERED<5 and p.description="Pull overs";
6. Find the products and their quantities for the orders placed by ‘Rakesh Joshi’ and ‘Mayur Patel’.
   * select description, sum(qtyordered) from productmaster p join (sales\_order s join sales\_order\_details so on s.orderno=so.orderno) on p.productno=so.PRODUCTNO where s.CLIENTNO="C00001" or s.CLIENTNO="C00002" group by DESCRIPTION;
7. Find the products and their quantities for the orders placed by ClientNo ‘C00001’ and ‘C00002
   * select description, sum(qtyordered) from productmaster p join (sales\_order s join sales\_order\_details so on s.orderno=so.orderno) on p.productno=so.PRODUCTNO where s.CLIENTNO="C00001" or s.CLIENTNO="C00002" group by DESCRIPTION;

**[E] Exercise on Sub-queries:**

1. Find the ProductNo and description of non-moving products i.e. products not being sold
   * select productno, description from productmaster where productno not in (select PRODUCTNO from sales\_order\_details);
2. List the CustomerName, Address1, Address2, City and Pin Code for the client who has placed order no ‘O19001’
   * select name, address1, address2, city, pincode from clientmaster where clientno = (select clientno from sales\_order where orderno='O19001');
3. List the client names that have placed orders before the month of May-04
   * select name from clientmaster where clientno IN (select clientno from sales\_order where orderdate<'04-05-01');
4. List if the product ‘Lycra Top’ has been ordered by any client and print the Client No., Name to whom it was sold.
   * select clientno, name from clientmaster where clientno in (select clientno from sales\_order where orderno in (select orderno from sales\_order\_details where PRODUCTNO="P07975"));
5. List the names of clients who have placed orders worth Rs. 10000 or more.
   * select name from clientmaster where clientno in (select clientno from sales\_order where orderno in (select orderno from sales\_order\_details where QTYORDERED\*PRODUCTRATE>=10000));