week 1 assignment

```
use Sales_ManagementDB

--TABLE CREATION
create table client_master (
   clientno   varchar(6) primary key
            check (clientno like 'c%'),
   name       varchar(20) not null,
   address1   varchar(30),
   address2   varchar(30),
   city       varchar(15),
   pincode    numeric(8),
   state      varchar(15),
   baldue     numeric(10,2)
);


create table product_master (
   productno     varchar(6) primary key
               check (productno like 'p%'),
   description   varchar(15) not null,
   profitperc    numeric(4,2) not null,
   unitmeasure   varchar(10) not null,
   qtyonhand     numeric(8) not null,
   reorderlvl    numeric(8) not null,
   sellprice     numeric(8,2) not null
               check (sellprice <> 0),
   costprice     numeric(8,2) not null
               check (costprice <> 0)
);


create table salesman_master (
   salesmanno    varchar(6) primary key
               check (salesmanno like 's%'),
   salesmanname  varchar(20) not null,
   address1      varchar(30) not null,
   address2      varchar(30),
   city          varchar(20),
   pincode       numeric(8),
   state         varchar(20),
   salamt        numeric(8,2) not null
               check (salamt <> 0),
   tgttoget      numeric(6,2) not null,
   ytdsales      numeric(6,2) not null,
   remarks       varchar(60)
);
```

```sql
create table sales_order (
   orderno      varchar(6) primary key check (orderno like 'o%'),
   clientno  varchar(6),
   orderdate date,
   delyaddr  varchar(25),
   salesmanno varchar(6),
   delytype  char(1) check (delytype in ('p','f')),
   billedyn  char(1) check (billedyn in ('y','n')),
   delydate     date,
   orderstatus  varchar(10) check (orderstatus in
            ('in process','fulfilled','backorder','cancelled')),
   constraint fk_client
      foreign key (clientno)
      references client_master(clientno),
   constraint fk_salesman
      foreign key (salesmanno)
      references salesman_master(salesmanno)
);


create table sales_order_details (
   orderno  varchar(6),
   productno varchar(6),
   qtyordered  numeric(8),
   qtydisp numeric(8),
   productrate numeric(10,2),
   constraint pk_sales_order_details
      primary key (orderno, productno),
   constraint fk_order
      foreign key (orderno)
      references sales_order(orderno),
   constraint fk_product
      foreign key (productno)
      references product_master(productno)
);

--INSERTION
insert into client_master (clientno, name, city, pincode, state, baldue) values
('c00001','ivan bayross','mumbai',400054,'maharashtra',15000),
('c00002','rahul sharma','delhi',110001,'delhi',12000),
('c00003','anita singh','pune',411001,'maharashtra',8000),
('c00004','rohit verma','chennai',600001,'tamil nadu',9500),
('c00005','kiran reddy','hyderabad',500081,'telangana',11000),
('c00006','sneha patel','ahmedabad',380001,'gujarat',7000),
('c00007','arjun nair','kochi',682001,'kerala',6000),
('c00008','meena joshi','jaipur',302001,'rajasthan',5000),
('c00009','vikram rao','bengaluru',560001,'karnataka',13000),
('c00010','pooja kulkarni','nagpur',440001,'maharashtra',4000),
('c00011','suresh yadav','indore',452001,'madhya pradesh',9000);
```

```
insert into product_master values
('p00001','t-shirts',5,'piece',200,50,350,250),
('p00002','jeans',8,'piece',150,40,1200,900),
('p00003','shirts',6,'piece',180,45,900,700),
('p00004','jackets',10,'piece',80,20,2500,2000),
('p00005','caps',4,'piece',300,60,250,150),
('p00006','shoes',12,'pair',100,25,3000,2400),
('p00007','belts',5,'piece',220,50,450,300),
('p00008','sweaters',9,'piece',90,20,1800,1400),
('p00009','shorts',6,'piece',160,40,700,500),
('p00010','socks',3,'pair',400,100,150,80),
('p00011','hoodies',11,'piece',70,15,2200,1700);


insert into salesman_master values
('s00001','aman','a/14','worli','mumbai',400002,'maharashtra',3000,100,50,'good'),
('s00002','raj','b/21','bandra','mumbai',400050,'maharashtra',3500,120,70,'excellent'),
('s00003','neha','c/11','karol bagh','delhi',110005,'delhi',2800,90,60,'good'),
('s00004','vikas','d/9','annanagar','chennai',600040,'tamil nadu',3200,110,65,'average'),
('s00005','priya','e/18','hitech city','hyderabad',500081,'telangana',4000,150,80,'excellent'),
('s00006','sunil','f/7','navrangpura','ahmedabad',380009,'gujarat',2600,85,55,'good'),
('s00007','ajay','g/10','mg road','bengaluru',560001,'karnataka',3800,140,90,'excellent'),
('s00008','rekha','h/3','civil lines','jaipur',302006,'rajasthan',2400,75,40,'average'),
('s00009','manoj','i/6','mp nagar','bhopal',462011,'madhya pradesh',2900,95,50,'good'),
('s00010','ramesh','j/5','sector 17','chandigarh',160017,'chandigarh',3100,105,60,'good'),
('s00011','deepa','k/2','panaji','goa',403001,'goa',2700,88,45,'average');


insert into sales_order
(orderno, orderdate, clientno, delyaddr, salesmanno, delytype, billedyn, delydate, orderstatus)
values
('o19001','2022-06-12','c00001','mumbai','s00001','f','n','2022-07-20','in process'),
('o19002','2022-06-15','c00002','delhi','s00002','p','y','2022-07-22','fulfilled'),
('o19003','2022-06-18','c00003','pune','s00003','f','n','2022-07-25','backorder'),
('o19004','2022-06-20','c00004','chennai','s00004','p','y','2022-07-27','fulfilled'),
('o19005','2022-06-22','c00005','hyderabad','s00005','f','n','2022-07-29','in process'),
('o19006','2022-06-25','c00006','ahmedabad','s00006','p','y','2022-08-01','fulfilled'),
('o19007','2022-06-27','c00007','kochi','s00007','f','n','2022-08-03','cancelled'),
('o19008','2022-06-29','c00008','jaipur','s00008','p','y','2022-08-05','fulfilled'),
('o19009','2022-07-01','c00009','bengaluru','s00009','f','n','2022-08-07','in process'),
('o19010','2022-07-03','c00010','nagpur','s00010','p','y','2022-08-09','fulfilled'),
('o19011','2022-07-05','c00011','indore','s00011','f','n','2022-08-11','backorder');


insert into sales_order_details values
('o19001','p00001',4,4,525),
('o19002','p00002',2,2,1200),
```

```
('o19003','p00003',3,1,900),
('o19004','p00004',1,1,2500),
('o19005','p00005',6,4,250),
('o19006','p00006',2,2,3000),
('o19007','p00007',5,3,450),
('o19008','p00008',2,2,1800),
('o19009','p00009',4,2,700),
('o19010','p00010',10,10,150),
('o19011','p00011',1,0,2200);
```

```
--Display the names of all the clients.
select name from client_master;
```

Results | Messages

	name
1	ivan bayross
2	rahul sharma
3	anita singh
4	rohit verma
5	kiran reddy
6	sneha patel
7	arjun nair
8	meena joshi
9	vikram rao
10	pooja kulka...
11	suresh yadav

Query executed successfully. | praveen (16.0 RTM) | PRAVEEN\PRAVEEN (67)

```
--Display all the clients who are located in Mumbai
select name from client_master
where city='mumbai'
```

Results | Messages

	name
1	ivan bayross

```
--Display all the products whose selling price is > 2000 and < 5000.
select productno from product_master
where sellprice between 2001 and 4999;
```

Results | Messages

	productno
1	p00004
2	p00006
3	p00011

```
--Display Name, City and State of Clients not in the state of Maharashtra.
select name, city, state
from client_master
where state <> 'maharashtra';
```

Results | Messages

	name	city	state
1	rahul sharma	delhi	delhi
2	rohit verma	chennai	tamil nadu
3	kiran reddy	hyderabad	telangana
4	sneha patel	ahmedabad	gujarat
5	arjun nair	kochi	kerala
6	meena joshi	jaipur	rajasthan
7	vikram rao	bengaluru	karnataka
8	suresh yadav	indore	madhya pradesh

Query executed successfully. praveen (16.0 RTM)

```
--Display all the information of client_no COOOI and C0002
select * from  client_master
where clientno in ('c00001','c00002');
```

Results | Messages

	clientno	name	address1	address2	city	pincode	state	baldue
1	c00001	ivan bayross	NULL	NULL	mumbai	400054	maharashtra	15000.00
2	c00002	rahul sharma	NULL	NULL	delhi	110001	delhi	12000.00

```
--Change the selling price of '1.44 drive' to Rs. 1150.50.
update product_master
set sellprice=1150.50
where description='1.44 drive';
```

Messages

```
(0 rows affected)

Completion time: 2026-01-02T12:47:06.1481993+05:30
```

```
--Delete the record of client no C0005
delete from sales_order_details
where orderno in (
select orderno from sales_order
where clientno='c00005');

delete from sales_order
where clientno = 'c00005';

delete from client_master
where clientno = 'c00005';
```

Messages

```
(1 row affected)

Completion time: 2026-01-02T14:11:57.1284055+05:30
```

```
--Display the clients who stay in a city whose second letter is 'a'.
select * from client_master
where city like '_a%';
```

Results | Messages

	clientno	name	address1	address2	city	pincode	state	baldue
1	c00008	meena joshi	NULL	NULL	jaipur	302001	rajasthan	5000.00
2	c00010	pooja kulkarni	NULL	NULL	nagpur	440001	maharashtra	4000.00

```
--Count the number of products having price greater than or equal to 1500
select count(*) from product_master
where costprice=1500;
```

Results | Messages

	(No column name)
1	3

```
--Display qtyordered, qtydisp and balancedqty (not in table).
select qtyordered,qtydisp,qtyordered-qtydisp as balancedqty
from sales_order_details;
```

Results | Messages

	qtyordered	qtydisp	balancedqty
1	4	4	0
2	2	2	0
3	3	1	2
4	1	1	0
5	2	2	0
6	5	3	2
7	2	2	0
8	4	2	2
9	10	10	0
10	1	0	1

Query executed successfully. praveen (16.0 RTM)

Write Commands to do following

```
--Make Client_no as primary key in client_master.
alter table client_master
add constraint pk_client_master
primary key (clientno);
```

Messages

```
Msg 1779, Level 16, State 0, Line 200
Table 'client_master' already has a primary key defined on it.
Msg 1750, Level 16, State 0, Line 200
Could not create constraint or index. See previous errors.

Completion time: 2026-01-02T15:02:21.7090462+05:30
```

```
--Add a new column phone_no in the client_master table
alter table client_master
add phone_no varchar(10) not null default 'unknown';

select * from client_master;
```

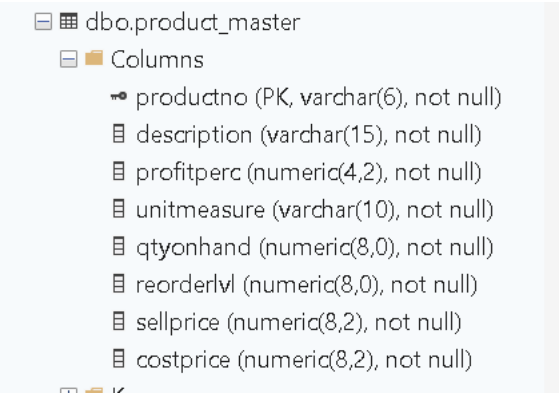
Results | Messages

	clientno	name	address1	address2	city	pincode	state	baldue	phone_no
1	c00001	ivan bayross	NULL	NULL	mumbai	400054	maharashtra	15000.00	unknown
2	c00002	rahul sharma	NULL	NULL	delhi	110001	delhi	12000.00	unknown
3	c00003	anita singh	NULL	NULL	pune	411001	maharashtra	8000.00	unknown
4	c00004	rohit verma	NULL	NULL	chennai	600001	tamil nadu	9500.00	unknown
5	c00006	sneha patel	NULL	NULL	ahmedabad	380001	gujarat	7000.00	unknown
6	c00007	arjun nair	NULL	NULL	kochi	682001	kerala	6000.00	unknown
7	c00008	meena joshi	NULL	NULL	jaipur	302001	rajasthan	5000.00	unknown
8	c00009	vikram rao	NULL	NULL	bengaluru	560001	karnataka	13000.00	unknown
9	c00010	pooja kulkarni	NULL	NULL	nagpur	440001	maharashtra	4000.00	unknown
10	c00011	suresh yadav	NULL	NULL	indore	452001	madhya pradesh	9000.00	unknown

Query executed successfully. praveen (16.0 RTM) PRAVEEN\PRAVEEN (67) Sales_Manage

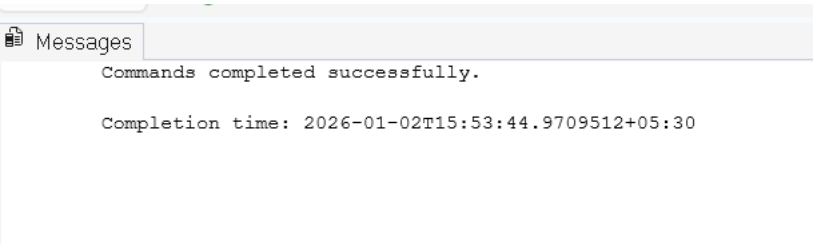
--Add the not null constraint in the product_master table with the column description, profit percent, sell price and cost price

```
alter table product_master
alter column description varchar(15) not null;

alter table product_master
alter column profitperc decimal(4,2) not null;

alter table product_master
alter column sellprice decimal(8,2) not null;

alter table product_master
alter column costprice decimal(8,2) not null;
```



--Change size of name column to 60 in client_master table

```
alter table client_master
alter column name varchar(60);
```



--Remove pincode column from table

```
alter table client_master
drop column pincode;
select * from client_master;
```

	clientno	name	address1	address2	city	state	baldue	phone_no
1	c00001	ivan bayross	NULL	NULL	mumbai	maharashtra	15000.00	unknown
2	c00002	rahul sharma	NULL	NULL	delhi	delhi	12000.00	unknown
3	c00003	anita singh	NULL	NULL	pune	maharashtra	8000.00	unknown
4	c00004	rohit verma	NULL	NULL	chennai	tamil nadu	9500.00	unknown
5	c00006	sneha patel	NULL	NULL	ahmedabad	gujarat	7000.00	unknown
6	c00007	arjun nair	NULL	NULL	kochi	kerala	6000.00	unknown
7	c00008	meena joshi	NULL	NULL	jaipur	rajasthan	5000.00	unknown
8	c00009	vikram rao	NULL	NULL	bengaluru	karnataka	13000.00	unknown
9	c00010	pooja kulkarni	NULL	NULL	nagpur	maharashtra	4000.00	unknown
10	c00011	suresh yadav	NULL	NULL	indore	madhya pradesh	9000.00	unknown

Query executed successfully. | praveen (16.0 RTM) | PRAVEEN\PRAVEEN (67) | Sales_ManagementDB

Define in 1 or 2 lines and give one example

1. **Recursive Relationship**

   A recursive relationship is a relationship where something is connected to itself one record in a table is related to another record in the same table.

   Example:

   In an employee table, an employee can be a manager of another employee, so both employee and manager belong to the same table.

emp_id	emp_name	manager_id
1	ram	null
2	sita	1
3	arjun	1

2. **Composite Key**

   A composite key is a key that is made using more than one column together to uniquely identify a record

   Example:

   primary key (order_no, product_no)

orderno	productno	quantity
o101	p01	2
o101	p02	1

3. **The 'like' operator with pattern matching**

   The **LIKE operator** is used when we want to **search for data that looks similar to a pattern**, not exactly the same.

   % → means *any number of characters*

   - before the word
   - after the word

- or both

Example: starts with a word

```
select * from client_master
where name like 'a%';
```

4. **Drop Table comman**

The DROP TABLE command is used to completely remove a table from the database

Example: drop table client_master;

5. **Full Outer Join**

A **full outer join** is used when we want **all records from both tables**, whether they match or not

Example:

Employee

emp_id	emp_name	dept_id
1	ramesh	10
2	suresh	20
3	anita	30

Department

dept_id	dept_name
10	hr
20	it
40	finance

```
select e.emp_id, e.emp_name, d.dept_name

from employee e

full outer join department d

on e.dept_id = d.dept_id;
```

emp_id	emp_name	dept_name
1	ramesh	hr
2	suresh	it
3	anita	null
null	null	finance

JOINS

```
--Find out the products, which have been sold to 'Ivan Bayross'
select distinct sod.productno, pm.description
from client_master m
join sales_order so on m.clientno = so.clientno
join sales_order_details sod on sod.orderno = so.orderno
join product_master pm on sod.productno = pm.productno
        where m.name = 'ivan bayross';
```

Results | Messages

	productno	description
1	p00001	t-shirts

```
---Finding out the products and their quantities that will have to be delivered in the current
month
select sod.productno,pm.description,sum(sod.qtydisp) as quantity_to_be_delivered
from sales_order so join sales_order_details sod on
sod.orderno=so.orderno join product_master pm
 on pm.productno=sod.productno where month(so.delydate)=month(getdate())
 and year(so.delydate)=year(getdate())
 group by sod.productno,pm.description;
```

Results | Messages

productno	description	quantity_to_be_delivered

```
--Listing the ProductNo and description of constantly sold (i.e. rapidly moving) products.
 select pm.productno, pm.description
from product_master pm
join sales_order_details sod
   on pm.productno = sod.productno
group by pm.productno, pm.description
having count(sod.productno) > 1;
```

Results | Messages

productno	description

```
--Finding the names of clients who have purchased 'Trousers'
select distinct cm.name
from client_master cm
join sales_order so
   on cm.clientno = so.clientno
join sales_order_details sod
```

```
    on so.orderno = sod.orderno
join product_master pm
    on sod.productno = pm.productno
where pm.description = 'trousers';
```

Results | Messages

name

```
--Listing the products and orders from customers who have ordered less than 5 units of 'Pull Overs'
select so.orderno,
       pm.productno,
       pm.description,
       sod.qtyordered
from sales_order so
join sales_order_details sod
    on so.orderno = sod.orderno
join product_master pm
    on sod.productno = pm.productno
where pm.description = 'pull overs'
  and sod.qtyordered < 5;
```

Results | Messages

orderno	productno	description	qtyordered

SUBQUERIES

```
--Finding the non-moving products i.e. products not being sold
select pm.productno, pm.description
from product_master pm
where not exists (
    select 1
    from sales_order_details sod
    where sod.productno = pm.productno
);
```

Results | Messages

	productno	description
1	p00005	caps

```
--Finding the name and complete address for the customer who has placed Order number
'019001'.
select name, address1, address2,city, state, phone_no
from client_master
where clientno = (
   select clientno
   from sales_order
   where orderno = 'o19001'
);
```

Results | Messages

	name	address1	address2	city	state	phone_no
1	ivan bayross	NULL	NULL	mumbai	maharashtra	unknown

```
--Finding the clients who have placed orders before the month of May'02
select distinct cm.name
from client_master cm
join sales_order so
   on cm.clientno = so.clientno
where so.orderdate < '2022-05-01';
```

Results | Messages

name

Write Commands to do following

```
--Display system date as Saturday, February 11, 2012
select format(getdate(), 'dddd, MMMM dd, yyyy') as system_date;
```

Results | Messages

	system_date
1	Sunday, January 04, 2026

```
--Display Balance Due from Client master as $99,999.99
select name,
      format(baldue, '$#,##0.00') as balance_due
from client_master;
```

Results | Messages

	name	balance_due
1	ivan bayross	$15,000.00
2	rahul sharma	$12,000.00
3	anita singh	$8,000.00
4	rohit verma	$9,500.00
5	sneha patel	$7,000.00
6	arjun nair	$6,000.00
7	meena joshi	$5,000.00
8	vikram rao	$13,000.00
9	pooja kulkarni	$4,000.00
10	suresh yadav	$9,000.00

Query executed successfully. praveen (16.0 RTM)

```
--Display message as 'Salesman Aman sold goods of 50 while given target was 100
select
   'salesman ' + salesmanname +
   ' sold goods of ' + cast(ytdsales as varchar(10)) +
   ' while given target was ' + cast(tgttoget as varchar(10))
   as message
from salesman_master
where salesmanname = 'aman';
```

Results | Messages

	message
1	salesman aman sold goods of 50.00 while given target was 100.00

```sql
--display age in years
select datediff(year, '2004-06-30', getdate()) as age_in_years;
```

Results | Messages

	age_in_years
1	22