**/\* Creating product table\*/**

create table product (product\_id integer primary key not null, product\_name varchar(20), product\_type varchar(20));

desc product;

insert into product values (1,'bournvita','health');

insert into product values (2,'crocin','health');

insert into product values (3,'sugarfree','health');

insert into product values (4,'pen','office');

insert into product values (5,'paper','office');

insert into product values (6,'pencil','office');

insert into product values (7,'watch','electronics');

insert into product values (8,'mobile','electronics');

insert into product values (9,'laptop','electronics');

insert into product values (10,'glass','home');

insert into product values (11,'dish','home');

insert into product values (12,'mixer','home');

insert into product values (13,'lotion','beauty');

insert into product values (14,'facewash','beauty');

insert into product values (15,'oil','beauty');

insert into product values (16,'honey','sweets');

insert into product values (17,'oreo','sweets');

insert into product values (18,'icecream','sweets');

insert into product values (19,'chocolate ','sweets');

insert into product values (20,'katli','sweets');

select \* FROM product;

**/\* Creating Supplier table using product key as foreign key \*/**

create table supplier (supplier\_id integer primary key not null, supplier\_name varchar(20), city varchar(20),product\_id integer,constraint supp\_prod\_fk foreign key(product\_id) references product(product\_id));

insert into supplier values(62,'Priyanka','Pune',NULL);

insert into supplier values(40,'Adani','Pune',1);

insert into supplier values(42,'Ambani','Mumbai',1);

insert into supplier values(44,'Birla','Satara',2);

insert into supplier values(46,'Tata','Sangli',2);

insert into supplier values(48,'Neeta','Solapur',3);

insert into supplier values(50,'Premji','Nagpur',1);

insert into supplier values(52,'Murthy','Nashik',1);

insert into supplier values(54,'Musk','Thane',4);

insert into supplier values(56,'Ahbi','Washim,',6);

insert into supplier values(58,'Akshay','Bhandara',6);

insert into supplier values(60,'Rupesh','Veer',7);

insert into supplier values(64,'Kanchan','Mumbai',16);

insert into supplier values(66,'Laxmi','Nashik',16);

insert into supplier values(68,'Priyanka','Sangli',17);

insert into supplier values(70,'Priyanka','Satara',19);

insert into supplier values(72,'Rushikesh','Latur',20);

insert into supplier values(74,'Arti','Ratnagiri',14);

insert into supplier values(76,'Swapnil','Kolhapur',12);

insert into supplier values(78,'Pooja','Chiplun',Null);

select \* from supplier;

desc supplier;

**/\* Creating Supplier table using product id and supplier id as foreign key \*/**

create table orders(order\_id integer primary key not null, order\_date date, order\_bill integer, product\_id integer, CONSTRAINT prod\_order\_fk foreign key (product\_id) REFERENCES product(product\_id), supplier\_id integer, CONSTRAINT supp\_order\_fk foreign key (supplier\_id) REFERENCES supplier(supplier\_id));

insert into orders values(101,'16-Feb-96',4500,1,42);

insert into orders values(102,'26-Apr-98',8000,1,40);

insert into orders values(103,'01-May-02',8300,2,46);

insert into orders values(104,'01-Sep-06',7300,6,58);

insert into orders values(105,'30-Sep-12',9300,7,60);

insert into orders values(106,'3-Dec-13',10000,9,52);

insert into orders values(107,'28-Nov-12',10030,9,52);

insert into orders values(108,'12-Jan-14',9700,12,72);

insert into orders values(109,'22-Mar-14',8500,19,Null);

insert into orders values(110,'29-Jun-15',8200,Null,78);

insert into orders values(111,'20-Aug-15',8100,Null,Null);

insert into orders values(112,'15-Oct-15',9100,17,76);

insert into orders values(113,'30-Dec-15',7700,12,70);

insert into orders values(114,'15-Feb-16',7100,13,54);

insert into orders values(115,'17-Apr-16',7500,3,48);

insert into orders values(116,'06-Jul-16',7400,18,42);

insert into orders values(117,'29-Sep-16',5200,10,66);

insert into orders values(118,'02-Nov-16',5100,11,64);

insert into orders values(119,'16-Feb-21',10900,1,40);

insert into orders values(120,'01-May-21',10900,1,40);

select \* from orders;

1. **Select statements**

select product\_id from product;

select product\_name from product;

select product\_type from product;

3

select supplier\_id from supplier;

select supplier\_name from supplier;

select city from supplier;

select product\_id from supplier;

4

select order\_id from orders;

select order\_date from orders;

select order\_bill from orders;

select product\_id from orders;

select supplier\_id from orders;

5

select product\_id, product\_name from product;

select product\_name,product\_type from product;

select product\_id, product\_type from product;

3

select supplier\_id, supplier\_name from supplier;

select city, product\_id from supplier;

select supplier\_id,city from supplier;

select supplier\_name, product\_id from supplier;

select supplier\_id, product\_id from supplier;

select city, supplier\_name from supplier;

6

select order\_id,order\_bill from orders;

select order\_id,order\_date from orders;

select order\_id, product\_id from orders;

select order\_id, supplier\_id from orders;

select order\_id, order\_bill,order\_date from orders;

select order\_date, order\_id, supplier\_id, product\_id from orders order by order\_date;

select product\_id, order\_bill from orders;

**Describe st.**

desc product;

desc supplier;

desc orders;

3

**Distinct st.**

select distinct \* from product;

select distinct product\_type from product;

select distinct \* from orders;

select distinct order\_bill from orders;

select distinct product\_id from orders;

select distinct supplier\_id from orders;

select distinct \* from supplier;

select distinct city from supplier;

select distinct product\_id from supplier;

**Arithmetic St.**

select \* from product;

select product\_name, product\_id, 20\*(product\_id + 10) from product;

select product\_name, product\_id, 20+(product\_id \* 10) from product;

select product\_name, product\_id, ((product\_id\*10) + 10)\*20 from product;

select \* from supplier;

select product\_id, 20\*(product\_id + 10) from supplier;

select product\_id, 20+(product\_id \* 10) from supplier;

select supplier\_id, ((supplier\_id\*10) + 10)\*20 from supplier;

select \* from orders;

select order\_id, order\_id\*12 from orders;

select supplier\_id, supplier\_id\*12 from orders;

select product\_id, product\_id+10\*10 from orders;

select order\_bill, order\_bill/100-15 from orders;

select order\_bill, (order\_bill-(order\_id\*10)) from orders;

select order\_id

from orders

where product\_id > 10;

select order\_date

from orders

where order\_date > '01-Jan-13';

**NULL**

select order\_id from orders

where product\_id like null;

**Col alais**

select order\_id, order\_bill as cost from orders;

select distinct product\_type as type from product;

**Concat**

select supplier\_name||city from supplier;

**Literal Char str**

select \* from supplier;

select 'Supplier '||supplier\_name||' belongs to '||city from supplier

where city like 'Pune';

**Alternative quote [q] operator**

select 'Supplier '||supplier\_name||q'[ comes from the great city of ]'||city from supplier;

**Date**

select \* from orders;

select order\_date from orders

where order\_date > '01-Jan-13';

select order\_id, order\_date, to\_char(order\_date,'dd-mm-yy') from orders;

select order\_id, order\_date, add\_months(order\_date,3) from orders;

select order\_id, order\_date, next\_day(order\_date,'Saturday') from orders;

**Restricting and Sorting Data, Betw, In, Not in, Like, IS NULL, Not Equal**

select \* from supplier;

select \* from supplier

where supplier\_name = 'Priyanka';

select supplier\_name from supplier

where supplier\_name like 'A%';

select supplier\_name from supplier

where supplier\_name like '%a';

select supplier\_name from supplier

where city in('Pune','Nashik');

select \* from supplier

where product\_id is null;

select \* from supplier

where supplier\_id between 48 and 62;

select \* from supplier

where city not in ('Pune','Nashik');

select \* from supplier

where supplier\_name != ('Priyanka')

**Logical AND**

Select supplier\_id, supplier\_name from supplier

Where supplier\_id >50

And supplier\_id < 60;

**Logical OR**

Select supplier\_id, supplier\_name from supplier

Where supplier\_id >50

Or supplier\_id < 60;

**Order by**

Select supplier\_id, supplier\_name,city from supplier

order by supplier\_id;

Select supplier\_id, supplier\_name,city from supplier

order by supplier\_id desc;

**Sorting**

Select order\_id, order\_bill, order\_date

From orders

Order by order\_id, order\_date desc;

**Substitution**

Select order\_id, order\_bill, order\_date

From orders

Where order\_id = &order\_num;

**Case Manipulation- Lower, Upper, Initcap**

Select lower(city) from supplier;

Select upper(supplier\_name) from supplier;

Select lower(supplier\_name), upper(city) from supplier;

Select lower(supplier\_name), initcap(Supplier\_name) from supplier;

**Substr**

Select supplier\_name, substr(supplier\_name,3) from supplier;

**Length**

Select city, length(city) from supplier;

**Instr**

Select supplier\_name, instr(supplier\_name,’a’) from supplier;

Select city, instr(city,’P’) from supplier;

**L-Pad**

Select product\_id, lpad(product\_id,3,’#’) from product;

**R-Pad**

Select product\_id, rpad(product\_id,10,’#’) from product;

**Replace**

Select replace(supplier\_name,’P’,’B’)

AND replace (supplier\_name,’i’,’a’) from supplier;

**Trim**

Select trim (‘#’ from ‘###Priyanka##’) from supplier;

**Number Funct- Round, Trunc, Mod**

Select round (order\_id/900,2) from orders;

Select trunc (order\_id/9000,1) from orders;

Select mod (order\_id,13) from orders;

**To Char**

Select order\_id, to\_char(‘order\_date’,’mm-yy’) from orders;

**Nesting**

Select (concat(Supplier\_name,city)), upper((concat(Supplier\_name,city))) from supplier;

**Average**

Select avg(order\_bill) from orders;

**Count**

Select count(order\_id) from orders;

Select count(product\_id) from orders;

**Min**

select min(order\_bill) as Min\_order from orders;

**Max**

select max(order\_bill) as Max\_order from orders;

**Sum**

select sum(order\_bill) as Total\_order from orders;

**GroupBy**

select product\_id, sum(order\_bill) from orders

group by product\_id;

**Having – we cant use where clause on GroupBy hence HAVING**

Select product\_id, max(order\_bill) from orders

Group by product\_id

Having max(order\_bill) >8000;

**Join**

Select supplier\_name, product\_id, city

From supplier

Natural join product;

**USING + Join +where**

Select p.Product\_name, product\_id, s.supplier\_name

From product p join supplier s

Using (product\_id)

Where product\_id >10;

**On Clause**

Select p.product\_id, s.supplier\_name, s.product\_id

From product p join supplier s

On(p.product\_id = s.product\_id);

**3 way join**

Select p.product\_id, s.supplier\_name,s.supplier\_id, s.product\_id, o.supplier\_id,

From product p join supplier s

On(p.product\_id = s.product\_id)

Join orders o

On(s.supplier\_id = o.supplier\_id);

**SubQuery**

Select supplier\_name

From supplier

Where supplier\_id >

( select avg(supplier\_id) from supplier);

**IN operator**

Select supplier\_id, supplier\_name,city

From supplier

Where supplier\_id in (40,50,54);

**Union**

Select product\_id

From product

Union

Select Product\_id

From supplier;

**Union All**

Select product\_id

From product

Union all

Select Product\_id

From supplier;

**Intersect**

Select product\_id

From product

Instersect

Select Product\_id

From supplier;

**Minus**

Select product\_id

From product

minus

Select Product\_id

From supplier;

Select product\_id

From supplier

minus

Select Product\_id

From product;