**1. Create a db called company consist of the following tables.**

**1.Emp (eno,ename, job,hiredate,salary,commission,deptno,)**

**2.dept(deptno,deptname,location)**

**eno is primary key in emp**

**deptno is primary key in dept**

create table Emp(eno int(10),ename varchar(10),job varchar(10), hiredate date,salary varchar(10),commision varchar(10),deptno varchar(20));

create table dept(deptno varchar(20),deptname varchar(20),location varchar(20));

ALTER TABLE Emp ADD PRIMARY KEY (eno);

ALTER TABLE dept ADD PRIMARY KEY (deptno);

insert into Emp(eno,ename,job,hiredate,salary,commision,deptno) values (01,'ABC','manager',2022/01/02,'5000','2000','10');

insert into Emp(eno,ename,job,hiredate,salary,commision,deptno) values (02,'PQR','salesman',2022/01/02,'1001','500','20');

insert into Emp(eno,ename,job,hiredate,salary,commision,deptno) values (03,'XYZ','manager',2022/01/02,'1000','2500','10');

insert into Emp(eno,ename,job,hiredate,salary,commision,deptno) values (04,'LMN','salesman',2022/01/02,'500','2500','20');

insert into dept (deptno,deptname,location) values ('10','production','Pune');

insert into dept (deptno,deptname,location) values ('20','Marketing','Mumbai');

**Solve Queries by SQL**

**1. List the maximum salary paid to salesman**

SELECT MAX(salary)FROM Emp where job = 'salesman' ;

**2. List name of emp whose name start with ‘I’**

select \* from Emp where ename like 'I%'

**3. List details of emp who have joined before ’30-sept-81’**

select \* from Emp where hiredate < 30/09/1981;

**4. List the emp details in the descending order of their basic salary**

select \* from Emp order by salary desc;

**5. List of no. of emp & avg salary for emp in the dept no ‘20’**

SELECT COUNT(ename)from Emp;

SELECT AVG(salary)from Emp where deptno = '20'

**6. List the avg salary, minimum salary of the emp hiredate wise for dept no ‘10’.**

SELECT AVG(salary) from Emp where deptno = '10' ;

SELECT MIN(salary) from Emp where deptno = '10' ;

**7. List emp name and its department**

select Emp.ename,dept.deptno from Emp inner join dept on Emp.deptno = dept.deptno;

**8. List total salary paid to each department**

SELECT SUM(salary) from Emp where deptno = '10';

SELECT SUM(salary) from Emp where deptno = '20';

**9. List details of employee working in ‘Dev’ department**

SELECT Emp.ename, dept.deptname from Emp inner join dept on Emp.deptno = dept. deptno where deptname = 'Dev';

**10. Update salary of all employees in deptno 10 by 5 %.**

update Emp set salary = salary + 5 where deptno = '10';

select \* from Emp;

**Q.2**

**1. employee (employee name, street, city) ,employee name is primary key**

**2. works (employee name, company name, salary)**

**3. company (company name, city) ,company name is primary key**

**4. manages (employee name, manager name)**

create table employee(employeename varchar(20) primary key,street varchar(20),city varchar(20));

insert into employee(employeename, street,city) values ('Neha','A street','A city');

insert into employee(employeename, street,city) values ('Reesha','B street','B city');

insert into employee(employeename, street,city) values ('Ritika','C street','C city');

insert into employee(employeename, street,city) values ('Ritu','C street','C city');

insert into employee(employeename, street,city) values ('Ryan','A street','A city');

insert into employee(employeename, street,city) values ('Kelly','B street','B city');

create table company(companyname varchar(20) primary key,city varchar(20));

insert into company (companyname , city)values ('First Bank Corporation','A city');

insert into company (companyname , city)values('Small Bank Corporation','B city');

insert into company (companyname , city)values('No Bank Corporation','C city');

insert into company (companyname , city)values('Yes Bank Corporation','A city');

insert into company (companyname , city)values('More Bank Corporation','B city');

create table works(employeename varchar(20),companyname varchar(20),salary double);

insert into works (employeename,companyname, salary)values('Neha','First Bank Corporation',40000);

insert into works (employeename,companyname, salary)values('Reesha','Small Bank Corporation',30000);

insert into works (employeename,companyname, salary)values('Ritika','No Bank Corporation',35000);

insert into works (employeename,companyname, salary)values('Ritu','Small Bank Corporation',25000);

insert into works (employeename,companyname, salary)values('Ryan','First Bank Corporation',15000);

insert into works (employeename,companyname, salary)values('Kelly','First Bank Corporation',10000);

create table manages(employeename varchar(20),managername varchar(20));

insert into manages (employeename,managername )values ('Neha','Ryan');

insert into manages (employeename,managername )values('Neha','Kelly');

insert into manages (employeename,managername )values('Reesha','Ritu');

**Give an expression in SQL for each of the following queries.**

**1. Find the names of all employees who work for First Bank Corporation.**

select employeename from works where companyname='First Bank Corporation';

**2. Find all employees who do not work for First Bank Coorporation**

select employeename from works where companyname<>'First Bank Corporation';

**3. Find the company that has most employees.**

**4. Find all companies located in every in which small bank corporation is located**

**5. Find details of employee having salary greater than 10,000.**

select \* from works where salary>10000;

**6. Update salary of all employees who work for First Bank Corporation by 10%.**

update works set salary=salary+10 where companyname ='First Bank Corporation';

select \* from works;

**7. Find employee and their managers.**

Select \* from manages;

**8. Find the names, street and cities of all employees who work for First Bank Corporation and earn more than 10,000.**

select e.employeename,e.street,e.city from employee e, works w where e.employeename = w.employeename and companyname="First Bank Corporation" and salary > 10000 **;**

**9. Find those companies whose employees earn a higher salary,on average, than the average salary at First Bank Corporation**

select AVG(salary) from works where companyname='First Bank Corporation';

Q.3

**The following tables form part of a database held in a relational DBMS:**

**Hotel (HotelNo, Name, City) HotelNo is the primary key**

**Room (RoomNo, HotelNo, Type, Price)**

**Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)**

**Guest (GuestNo, GuestName, GuestAddress) GuestNo is primary key**

**Room contains room details for each hotel and (HotelNo, RoomNo) forms the primary key.**

**Booking contains details of the bookings and the primary key comprises (HotelNo, GuestNo and DateFrom)**

create table Hotel(hotelNo varchar(20) primary key , name varchar(40), city varchar (40));

create table Room(roomno varchar(20)primary key,hotelno varchar (20),type varchar(20),price varchar(20));

create table Booking(hotelNo varchar(20),guestno varchar(20),dateFrom varchar(20),dateTo varchar(20),roomno varchar(20));

create table Guest(guestno varchar(20)primary key,guestname varchar(20),guestaddress varchar(50));

insert into Hotel(hotelNo,name,city)values ('01','Grosvenor','Newyork');

insert into Hotel(hotelNo,name,city)values ('02','Indigo','Delhi');

insert into Hotel(hotelNo,name,city)values ('03','Zen','London');

insert into Hotel(hotelNo,name,city)values ('04','Italia','Chikago');

insert into Hotel(hotelNo,name,city)values ('05','Bukhara','Los Angeles');

insert into Room(roomno,hotelNo,type,price)values('11','01','suit','12000');

insert into Room(roomno,hotelNo,type,price)values('13','01','presedential suit','100000');

insert into Room(roomno,hotelNo,type,price)values('14','03','deluxe','8000');

insert into Room(roomno,hotelNo,type,price)values('15','04','studio','15000');

insert into Room(roomno,hotelNo,type,price)values('16','05','super deluxe','14000');

insert into Booking (hotelno, guestno, datefrom, dateto, roomno ) values ('01','22',2022/08/02,2022/09/03,'11');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','23',2021/10/04,2021/10/05,'13');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('03','24',2020/07/08,2020/07/09,'14');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('05','25',2022/08/07,2022/08/08,'16');

insert into Guest(guestno,guestname,guestaddress) values ('23','ABC','Newyork');

insert into Guest(guestno,guestname,guestaddress) values ('24','ABC','London');

insert into Guest(guestno,guestname,guestaddress) values ('25','ABC','Delhi');

insert into Guest(guestno,guestname,guestaddress) values ('22','ABC','Mumbai');

**Solve following queries by SQL**

**1. List full details of all hotels.**

SELECT \* FROM Hotel;

**2. How many hotels are there?**

SELECT COUNT(\*) FROM Hotel;

**3. List the price and type of all rooms at the Grosvenor Hotel.**

SELECT price, type FROM Room WHERE hotelNo = (SELECT hotelNo FROM Hotel WHERE name= ‘Grosvenor Hotel’);

**4. List the number of rooms in each hotel.**

SELECT hotelNo, COUNT(roomNo) AS count FROM Room GROUP BY hotelNo;

**5. Update the price of all rooms by 5%.**

Update Room set price=price+5;

**6. List full details of all hotels in London.**

SELECT \* FROM Hotel WHERE city = ‘London’;

**7. What is the average price of a room?**

SELECT AVG(price) FROM Room;

**8. List all guests currently staying at the Grosvenor Hotel.**

SELECT \* FROM Guest WHERE guestno = (SELECT guestNo FROM Booking WHERE dateFrom <= CURRENT\_DATE AND dateTo >= CURRENT\_DATE AND hotelNo = (SELECT hotelNo FROM Hotel WHERE name = ‘Grosvenor’));

**9. List the number of rooms in each hotel in London.**

SELECT hotelNo, COUNT(roomNo) AS count FROM Room r, Hotel h WHERE r.hotelNo = h.hotelNo AND city = ‘London’ GROUP BY hotelNo;

**10.Create one view on above database and query it.**

create view show as select hotelno,name from Hotel;

if it gives error then put show (i.e view\_name in square brackets [ ])

Q4. **The following tables form part of a database held in a relational DBMS:**

**Hotel (HotelNo, Name, City) HotelNo is primary key**

**Room (RoomNo, HotelNo, Type, Price)**

**Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)**

**Guest (GuestNo, GuestName, GuestAddress) GuestNo is primary key**

create table Hotel(hotelno varchar(20) primary key , name varchar(40), city varchar (40));

create table Room(roomno varchar(20)primary key,hotelno varchar (20),type varchar(20),price varchar(20));

create table Booking(hotelno varchar(20),guestno varchar(20),datefrom varchar(20),dateto varchar(20),roomno varchar(20));

create table Guest(guestno varchar(20)primary key,guestname varchar(20),guestaddress varchar(50));

insert into Hotel(hotelno,name,city)values ('01','Grosvenor','Newyork');

insert into Hotel(hotelno,name,city)values ('02','Indigo','Delhi');

insert into Hotel(hotelno,name,city)values ('03','Zen','London');

insert into Hotel(hotelno,name,city)values ('04','Italia','Chikago');

insert into Hotel(hotelno,name,city)values ('05','Bukhara','Los Angeles');

insert into Room(roomno,hotelno,type1,price)values('11','01','double','12000');

insert into Room(roomno,hotelno,type1,price)values('13','01','presedential suit','100000');

insert into Room(roomno,hotelno,type1,price)values('14','03','deluxe','8000');

insert into Room(roomno,hotelno,type1,price)values('15','04','studio','15000');

insert into Room(roomno,hotelno,type1,price)values('16','05','family','14000');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','22','2022/08/02','2022/08/03','11');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','23','2021/10/04','2021/10/05','13');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('03','24','2020/07/08','2020/07/09','14');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('05','25','2022/08/07','2022/08/08','16');

insert into Guest(guestno,guestname,guestaddress) values ('23','ABC','Newyork');

insert into Guest(guestno,guestname,guestaddress) values ('24','ABC','London');

insert into Guest(guestno,guestname,guestaddress) values ('25','ABC','Delhi');

insert into Guest(guestno,guestname,guestaddress) values ('22','ABC','Mumbai');

**Solve following queries by SQL**

**1. What is the total revenue per night from all double rooms?**

select SUM(price)from Room where type1 = 'double';

**2. List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.**

SELECT r.\* FROM Room r LEFT JOIN (SELECT g.guestname, h.hotelno, b.roomno FROM Guest g, Booking b, Hotel h WHERE g.guestno = b.guestno AND b.hotelno = h.hotelno AND name='Grosvenor' AND datefrom <= CURRENT\_DATE AND dateto >= CURRENT\_DATE) AS XXX ON r.hotelno = XXX.hotelno AND r.roomno = XXX.roomno;

**3. What is the average number of bookings for each hotel in April?**

SELECT COUNT(DISTINCT guestNo) FROM Booking WHERE (datefrom <='2022-08-01' AND dateto>='2022-08-01') OR (datefrom >='2022-08-01' AND datefrom <= '2022-08-31');

**4. Create index on one of the field and show is performance in query.**

CREATE INDEX show ON Hotel (hotelno, name);

**5. List full details of all hotels.**

select h.hotelno,h.name,h.city,r.type1,r.price from Hotel h, Room r ;

**6. List full details of all hotels in London.**

SELECT \* FROM Hotel WHERE city = 'London';

**7. Update the price of all rooms by 5%.**

update Room set price = price + 5;

select \* from Room;

**8. List the number of rooms in each hotel in London.**

SELECT h.hotelno ,COUNT(roomNo) AS count FROM Room r, Hotel h WHERE r.hotelno = h.hotelno AND city = 'London' GROUP BY hotelno;

**9. List all double or family rooms with a price below £40.00 per night, in ascending order of price**

SELECT \* FROM Room WHERE price < '40' AND type1 IN ('double', 'family')

ORDER BY price;

**Q.5** **The following tables form part of a database held in a relational DBMS:**

**Hotel (HotelNo, Name, City) HotelNo is the primary key**

**Room (RoomNo, HotelNo, Type, Price)**

**Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)**

**Guest (GuestNo, GuestName, GuestAddress)**

create table Hotel(hotelno varchar(20) primary key , name varchar(40), city varchar (40));

create table Room(roomno varchar(20)primary key,hotelno varchar (20),type varchar(20),price varchar(20));

create table Booking(hotelno varchar(20),guestno varchar(20),datefrom varchar(20),dateto varchar(20),roomno varchar(20));

create table Guest(guestno varchar(20)primary key,guestname varchar(20),guestaddress varchar(50));

insert into Hotel(hotelno,name,city)values ('01','Grosvenor','Newyork');

insert into Hotel(hotelno,name,city)values ('02','Indigo','Delhi');

insert into Hotel(hotelno,name,city)values ('03','Zen','London');

insert into Hotel(hotelno,name,city)values ('04','Italia','Chikago');

insert into Hotel(hotelno,name,city)values ('05','Bukhara','Los Angeles');

insert into Room(roomno,hotelno,type1,price)values('11','01','double','12000');

insert into Room(roomno,hotelno,type1,price)values('13','01','presedential suit','100000');

insert into Room(roomno,hotelno,type1,price)values('14','03','deluxe','8000');

insert into Room(roomno,hotelno,type1,price)values('15','04','studio','15000');

insert into Room(roomno,hotelno,type1,price)values('16','05','family','14000');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','22','2022/08/02','2022/08/03','11');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','23','2021/10/04','2021/10/05','13');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('03','24','2020/07/08','2020/07/09','14');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('05','25','2022/08/07','2022/08/08','16');

insert into Guest(guestno,guestname,guestaddress) values ('23','ABC','Newyork');

insert into Guest(guestno,guestname,guestaddress) values ('24','ABC','London');

insert into Guest(guestno,guestname,guestaddress) values ('25','ABC','Delhi');

insert into Guest(guestno,guestname,guestaddress) values ('22','ABC','Mumbai');

**Solve following queries by SQL**

**1. List full details of all hotels.**

select h.hotelno,h.name,h.city,r.type1,r.price from Hotel h, Room r ;

**2. How many hotels are there?**

select count(name) from Hotel;

**3. List the price and type of all rooms at the Grosvenor Hotel.**

select type1 from Room;

**4. List the number of rooms in each hotel**

**5. List all guests currently staying at the Grosvenor Hotel.**

**6. List all double or family rooms with a price below £40.00 per night, in ascending order of price.**

SELECT \* FROM Room WHERE price < '40' AND type1 IN ('double', 'family')

ORDER BY price;

**7. How many different guests have made bookings for August?**

select guestno from Booking where datefrom between '2022/08/01' and '2022/08/31';

**8. What is the total income from bookings for the Grosvenor Hotel today?**

**9. What is the most commonly booked room type for each hotel in London?**

select MAX(type1) from Room where hotelno = '01';

**10. Update the price of all rooms by 5%.**

Update Room set price=price+5;

**Q.6 The following tables form part of a database held in a relational DBMS:**

**Hotel (HotelNo, Name, City)**

**Room (RoomNo, HotelNo, Type, Price)**

**Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)**

**Guest (GuestNo, GuestName, GuestAddress)**

create table Hotel(hotelno varchar(20) primary key , name varchar(40), city varchar (40));

create table Room(roomno varchar(20)primary key,hotelno varchar (20),type varchar(20),price varchar(20));

create table Booking(hotelno varchar(20),guestno varchar(20),datefrom varchar(20),dateto varchar(20),roomno varchar(20));

create table Guest(guestno varchar(20)primary key,guestname varchar(20),guestaddress varchar(50));

insert into Hotel(hotelno,name,city)values ('01','Grosvenor','Newyork');

insert into Hotel(hotelno,name,city)values ('02','Indigo','Delhi');

insert into Hotel(hotelno,name,city)values ('03','Zen','London');

insert into Hotel(hotelno,name,city)values ('04','Italia','Chikago');

insert into Hotel(hotelno,name,city)values ('05','Bukhara','Los Angeles');

insert into Room(roomno,hotelno,type1,price)values('11','01','double','12000');

insert into Room(roomno,hotelno,type1,price)values('13','01','presedential suit','100000');

insert into Room(roomno,hotelno,type1,price)values('14','03','deluxe','8000');

insert into Room(roomno,hotelno,type1,price)values('15','04','studio','15000');

insert into Room(roomno,hotelno,type1,price)values('16','05','family','14000');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','22','2022/08/02','2022/08/03','11');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('01','23','2021/10/04','2021/10/05','13');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('03','24','2020/07/08','2020/07/09','14');

insert into Booking (hotelno,guestno,datefrom,dateto,roomno)values('05','25','2022/08/07','2022/08/08','16');

insert into Guest(guestno,guestname,guestaddress) values ('23','ABC','Newyork');

insert into Guest(guestno,guestname,guestaddress) values ('24','ABC','London');

insert into Guest(guestno,guestname,guestaddress) values ('25','ABC','Delhi');

insert into Guest(guestno,guestname,guestaddress) values ('22','ABC','Mumbai');

**Solve following queries by SQL**

**1. List full details of all hotels.**

select h.hotelno,h.name,h.city,r.type1,r.price from Hotel h, Room r ;

**2. List full details of all hotels in London.**

SELECT \* FROM Hotel WHERE city = 'London';

**3. List all guests currently staying at the Grosvenor Hotel.**

select \* from Booking where dateto >= '2022/11/11';

**4. List the names and addresses of all guests in London, alphabetically ordered by name.**

select guestname , guestaddress from Guest where guestaddress = 'London' order by guestname;

**5. List the bookings for which no date\_to has been specified.**

select \* from Booking where dateto = 'null';

**6. How many hotels are there?**

select count(name) from Hotel;

**7. List the rooms that are currently unoccupied at the Grosvenor Hotel.**

**8. What is the lost income from unoccupied rooms at each hotel today?**

**9. Create index on one of the field and show is performance in query.**

CREATE INDEX show ON Hotel (hotelno, name);

**10. Create one view on above database and query it**

CREATE VIEW hotel\_view AS SELECT name, city FROM Hotel;

UPDATE hotel\_view SET name = 'India meal' WHERE name = 'Indigo'; (query on view)

select \* from hotel\_view;

**Q.7 Consider the following database**

**Project(project\_id,proj\_name,chief\_arch) , project\_id is primary key Employee(Emp\_id,Emp\_name) , Emp\_id is primary key**

**Assigned-To(Project\_id,Emp\_id)**

create table Project (Project\_id varchar(10) primary key, proj\_name varchar(10) , chief\_arch varchar(20));

create table Employee (Emp\_id varchar(10) primary key, Emp\_name varchar(10));

create table Assigned\_To (Project\_id varchar(10), Emp\_id varchar(10));

insert into Project(Project\_id , proj\_name , chief\_arch) values ('C353','Database','ABC');

insert into Project(Project\_id , proj\_name , chief\_arch) values ('C354','Big data','PQR');

insert into Project(Project\_id , proj\_name , chief\_arch) values ('C453','Cloud','LMN');

insert into Project(Project\_id , proj\_name , chief\_arch) values ('C352','Networking','DEF');

insert into Project(Project\_id , proj\_name , chief\_arch) values ('C351','OS','XYZ');

insert into Employee(Emp\_id , Emp\_name) values ('01','Nobita');

insert into Employee(Emp\_id , Emp\_name) values ('02','Shijuka');

insert into Employee(Emp\_id , Emp\_name) values ('03','Jian');

insert into Employee(Emp\_id , Emp\_name) values ('04','Kenichi');

insert into Employee(Emp\_id , Emp\_name) values ('05','Yumiko');

insert into Assigned\_To(Project\_id , Emp\_id) values ('C353','01');

insert into Assigned\_To(Project\_id , Emp\_id) values ('C354','01');

insert into Assigned\_To(Project\_id , Emp\_id) values ('C353','02');

insert into Assigned\_To(Project\_id , Emp\_id) values ('C351','03');

insert into Assigned\_To(Project\_id , Emp\_id) values ('C453','04');

**Find the SQL queries for the following:**

**1. Get the details of employees working on project C353**

select Project\_id ,Emp\_name from Assigned\_To inner join Employee on Employee.Emp\_id = Assigned\_To.Emp\_id where Project\_id = 'C353';

**2. Get employee number of employees working on project C353**

select count(Emp\_id)from Assigned\_To where Project\_id = 'C353';

**3. Obtain details of employees working on Database project**

select \* from Project where proj\_name = 'Database';

**4. Get details of employees working on both C353 and C354**

select Emp\_name from Employee inner join Assigned\_To on Employee.Emp\_id = Assigned\_To. Emp\_id where Project\_id = ('C353''C354');

**5. Get employee numbers of employees who do not work on project C453**

select \* from Assigned\_To inner join Employee on Employee.Emp\_id = Assigned\_To. Emp\_id where Project\_id <> 'C453';

**8. Consider the following database**

**Employee(emp\_no,name,skill,pay-rate) eno primary key**

**Position(posting\_no,skill) posting\_no primary key**

**Duty\_allocation(posting\_no,emp\_no,day,shift)**

create table Employee (emp\_no varchar(10) primary key , name varchar(10), skill varchar(10),payrate varchar(10));

create table Position (posting\_no varchar(10) primary key , skill varchar(10));

create table Duty\_allocation(posting\_no varchar(10), emp\_no varchar(10), day varchar(10), shift varchar(10));

insert into Employee(emp\_no, name, skill, payrate) values ('123461', 'ABC','chef', '10000');

insert into Employee(emp\_no, name, skill, payrate) values ('123460', 'PQR','manager', '15000');

insert into Employee(emp\_no, name, skill, payrate) values ('123462', 'LMN','chef', '10000');

insert into Employee(emp\_no, name, skill, payrate) values ('123463', 'XYZ','waiter', '5000');

insert into Employee(emp\_no, name, skill, payrate) values ('123464', 'DEF','captain', '7000');

insert into Duty\_allocation(posting\_no , emp\_no, day, shift)values ('01','123461','Monday','Morning');

insert into Duty\_allocation(posting\_no , emp\_no, day, shift)values ('02','123460','Monday','Morning');

insert into Duty\_allocation(posting\_no , emp\_no, day, shift)values ('03','123463','Monday','Morning');

insert into Duty\_allocation(posting\_no , emp\_no, day, shift)values ('04','123464','Monday','Morning');

insert into Duty\_allocation(posting\_no , emp\_no, day, shift)values ('01','123462','Monday','Morning');

insert into Position (posting\_no, skill)values('01','chef');

insert into Position (posting\_no, skill)values('02','manager');

insert into Position (posting\_no, skill)values('03','waiter');

insert into Position (posting\_no, skill)values('04','cptain');

**Find the SQL queries for the following:**

**1. Get the duty allocation details for emp\_no 123461 for the month of April 1986.**

select \* from Duty\_allocation where emp\_no = '123461' and shift = 'morning';

**2. Find the shift details for Employee ‘xyz’**

select name,day,shift from Employee inner join Duty\_allocation on Employee.emp\_no = Duty\_allocation.emp\_no where name = 'XYZ';

**3. Get employees whose rate of pay is more than or equal to the rate of pay of employee ‘xyz’**

select \* from Employee where payrate >= '5000';

**4. Get the names and pay rates of employees with emp\_no less than 123460 whose rate of pay is more than the rate of pay of at least one employee with emp\_no greater than or equal to 123460.**

Select name, payrate from Employee where emp\_no < '123460' and payrate > some (select payrate from Employee where emp\_no >= 123460);

**5. Find the names of employees who are assigned to all positions that require a Chef’s skill**

select \* from Employee where skill ='chef';

**6 .Find the employees with the lowest pay rate**

select emp\_no, Name, Payrate from Employee where payrate <= all (select payrate from Employee)

**7 .Get the employee numbers of all employees working on at least two dates.**

**8 .Get a list of names of employees with the skill of Chef who are assigned a duty**

select \* from Employee where skill = 'chef';

**9 .Get a list of employees not assigned a duty**

select \* from Duty\_allocation where shift = 'Null';

**10.Get a count of different employees on each shift**

select shift, COUNT(emp\_no) from Duty\_allocation group by shift;

**Q**.**9 Create the following tables. And Solve following queries by SQL**

**• Deposit** **(actno,cname,bname,amount,adate)**

**• Branch (bname,city)**

**• Customers (cname, city)**

**• Borrow(loanno,cname,bname, amount) Add primary key and foreign key wherever applicable.**

**Insert data into the above created tables.**

create table Deposite (actno varchar(10),cname varchar(10), bname varchar(10), amount varchar(10), adate varchar(10));

create table Branch (bname varchar(10) primary key, city varchar(10));

create table Borrow(loanno varchar(10), cname varchar(10), bname varchar(10) , amount varchar(10));

create table Customer(cname varchar(10), city varchar(10));

insert into Deposite(actno, cname, bname, amount, adate) values ('11','Anil','Axis','1000','1996/08/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('12','Sunil','PNB','3000','2022/09/03');

insert into Deposite(actno, cname, bname, amount, adate) values ('13','Pravin','SBI','5000','1997/07/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('14','Vijay','ICICI','7000','2022/10/05');

insert into Deposite(actno, cname, bname, amount, adate) values ('15','Arjun','HDFC','9000','1996/04/08');

insert into Branch (bname, city)values ('Axis','Pune');

insert into Branch (bname, city)values ('PNB','Mumbai');

insert into Branch (bname, city)values ('SBI','Delhi');

insert into Branch (bname, city)values ('HDFC','Perryridge');

insert into Branch (bname, city)values ('TJSB','Chennai');

insert into Customer (cname, city)values('Anil','Pune');

insert into Customer (cname, city)values('Sunil','Perryridge');

insert into Customer (cname, city)values('Pravin','Pune');

insert into Customer (cname, city)values('Vijay','Culcutta');

insert into Customer (cname, city)values('Arjun','Pune');

insert into Customer (cname, city)values('Vinod','Pune');

insert into Borrow(loanno, cname, bname, amount)values('21','Anil','Axis','10000');

insert into Borrow(loanno, cname, bname, amount)values('22','Sunil','PNB','10500');

insert into Borrow(loanno, cname, bname, amount)values('23','Arjun','HDFC','18000');

insert into Borrow(loanno, cname, bname, amount)values('24','Vijay','ICICI','10700');

insert into Borrow(loanno, cname, bname, amount)values('21','Pravin','TJSB','10000');

**1. Display names of depositors having amount greater than 4000.**

SELECT cname FROM Deposite WHERE amount >4000;

**2. Display account date of customers Anil**

Select adate from Deposite where cname='Anil';

**3. Display account no. and deposit amount of customers having account opened between dates 1-12-96 and 1-5-97**

SELECT actno, amount FROM Deposite WHERE adate BETWEEN '1996/12/01' AND '1997/05/01';

**4. Find the average account balance at the Perryridge branch.**

select avg (amount),cname from Borrow inner join Branch on Borrow.bname = Branch.bname AND bname = 'Perryridge';

**5. Find the names of all branches where the average account balance is more than $1,200.**

select bname, avgbalance from (select bname, avg (amount) from Borrow group by bname) as result (bname, avgbalance) where avgbalance > '1200';

**6. Delete depositors having deposit less than 5000**

Delete from Deposite where amount <5000;

select \* from Deposite;

**7. Create a view on deposit table**

CREATE VIEW [Bank] AS SELECT cname, bname FROM Borrow WHERE loanno = '21';

select \* from [Bank];

**Q.10 Create the following tables. And Solve following queries by SQL**

**1. Deposit (actno,cname,bname,amount,adate)**

**2. Branch (bname,city)**

**3. Customers (cname, city)**

**4. Borrow(loanno,cname,bname, amount) Add primary key and foreign key wherever applicable. Insert data into the above created tables.**

create table Deposite (actno varchar(10),cname varchar(10), bname varchar(10), amount varchar(10), adate varchar(10));

create table Branch (bname varchar(10) primary key, city varchar(10));

create table Borrow(loanno varchar(10), cname varchar(10), bname varchar(10) , amount varchar(10));

create table Customer(cname varchar(10), city varchar(10));

insert into Deposite(actno, cname, bname, amount, adate) values ('11','Anil','Axis','1000','1996/08/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('12','Sunil','PNB','3000','2022/09/03');

insert into Deposite(actno, cname, bname, amount, adate) values ('13','Pravin','SBI','5000','1997/07/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('14','Vijay','ICICI','7000','2022/10/05');

insert into Deposite(actno, cname, bname, amount, adate) values ('15','Arjun','HDFC','9000','1996/04/08');

insert into Branch (bname, city)values ('Axis','Pune');

insert into Branch (bname, city)values ('PNB','Mumbai');

insert into Branch (bname, city)values ('SBI','Delhi');

insert into Branch (bname, city)values ('HDFC','Perryridge');

insert into Branch (bname, city)values ('TJSB','Chennai');

insert into Customer (cname, city)values('Anil','Pune');

insert into Customer (cname, city)values('Sunil','Perryridge');

insert into Customer (cname, city)values('Pravin','Pune');

insert into Customer (cname, city)values('Vijay','Culcutta');

insert into Customer (cname, city)values('Arjun','Pune');

insert into Customer (cname, city)values('Vinod','Pune');

insert into Borrow(loanno, cname, bname, amount)values('21','Anil','Axis','10000');

insert into Borrow(loanno, cname, bname, amount)values('22','Sunil','PNB','10500');

insert into Borrow(loanno, cname, bname, amount)values('23','Arjun','HDFC','18000');

insert into Borrow(loanno, cname, bname, amount)values('24','Vijay','ICICI','10700');

insert into Borrow(loanno, cname, bname, amount)values('21','Pravin','TJSB','10000');

**a. Display names of all branches located in city Bombay.**

Select \* from Branch where city='Bombay';

**b. Display account no. and amount of depositors.**

select actno , amount from Deposite;

**c. Update the city of customers Anil from Pune to Mumbai**

Update Customer set city='Mumbai' where city='Pune';

select \* from Customer;

**d. Find the number of depositors in the bank**

select COUNT(actno) from Deposite;

**e. Calculate Min, Max amount of customers.**

select MIN(amount) from Deposite;

select MAX(amount) from Deposite;

**f. Create an index on deposit table**

**g. Create View on Borrow table.**

**Q.11 Create the following tables. Solve queries by SQL**

**• Deposit (actno,cname,bname,amount,adate)**

**• Branch (bname,city) • Customers (cname, city)**

**• Borrow(loanno,cname,bname, amount) Add primary key and foreign key wherever applicable. Insert data into the above created tables.**

create table Deposite (actno varchar(10),cname varchar(10), bname varchar(10), amount varchar(10), adate varchar(10));

create table Branch (bname varchar(10) primary key, city varchar(10));

create table Borrow(loanno varchar(10), cname varchar(10), bname varchar(10) , amount varchar(10));

create table Customer(cname varchar(10), city varchar(10));

insert into Deposite(actno, cname, bname, amount, adate) values ('11','Anil','Axis','1000','1996/08/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('12','Sunil','PNB','3000','2022/09/03');

insert into Deposite(actno, cname, bname, amount, adate) values ('13','Pravin','SBI','5000','1997/07/02');

insert into Deposite(actno, cname, bname, amount, adate) values ('14','Vijay','ICICI','7000','2022/10/05');

insert into Deposite(actno, cname, bname, amount, adate) values ('15','Arjun','HDFC','9000','1996/04/08');

insert into Branch (bname, city) values ('Axis','Pune');

insert into Branch (bname, city) values ('PNB','Bombay');

insert into Branch (bname, city) values ('SBI','Delhi');

insert into Branch (bname, city) values ('HDFC','Perryridge');

insert into Branch (bname, city) values ('Karolabagh','Chennai');

insert into Customer (cname, city)values('Anil','Pune');

insert into Customer (cname, city)values('Sunil','Perryridge');

insert into Customer (cname, city)values('Pravin','Pune');

insert into Customer (cname, city)values('Vijay','Culcutta');

insert into Customer (cname, city)values('Arjun','Pune');

insert into Customer (cname, city)values('Vinod','Pune');

insert into Borrow(loanno, cname, bname, amount)values('21','Anil','Axis','10000');

insert into Borrow(loanno, cname, bname, amount)values('22','Sunil','PNB','10500');

insert into Borrow(loanno, cname, bname, amount)values('23','Arjun','HDFC','18000');

insert into Borrow(loanno, cname, bname, amount)values('24','Vijay','ICICI','10700');

insert into Borrow(loanno, cname, bname, amount)values('21','Pravin','Karolabagh','10000');

**a. Display account date of customers Anil.**

select adate from Deposite where cname='Anil';

**b. Modify the size of attribute of amount in deposit**

ALTER TABLE Deposite MODIFY actno VARCHAR(20) ;

**c. Display names of customers living in city pune.**

select cname from Customer where city='Pune';

**d. Display name of the city where branch KAROLBAGH is located.**

Select city from Branch where bname = 'Karolabagh';

**e. Find the number of tuples in the customer relation**

select COUNT(\*) from Customer;

**f. Delete all the record of customers Sunil**

delete from Customer where cname='Sunil';

select \* from Customer;

**g. Create a view on deposit table.**

create View deposit\_view as select actno,cname,bname,amount,adate from Deposite;

select \* from Deposit\_view;

**Q.12 Create the following tables. Solve queries by SQL**

**• Deposit (actno,cname,bname,amount,adate)**

**• Branch (bname,city)**

**• Customers (cname, city)**

**• Borrow(loanno,cname,bname, amount) Add primary key and foreign key wherever applicable. Insert data into the above created tables. Solve following queries by SQL**

create table deposit (actno varchar(5) ,cname varchar(18) , bname varchar(18) , amount int ,adate date);

create table branch(bname varchar(18),city varchar(18));

create table customers(cname varchar(19) ,city varchar(18));

create table borrow(loanno varchar(5), cname varchar(18), bname varchar(18), amount int);

**deposit:**

insert into deposit values('100',’anil’,'vrce',1000,'1995-03-01');

insert into deposit values('101','sunil','ajni',5000,'1996-01-04');

insert into deposit values('102','mehul','karolbagh',3500,'1995-11-17');

insert into deposit values('104','madhuri','chandi',1200,'1995-12-17');

insert into deposit values('105','prmod','m.g.road',3000,'1996-03-27');

insert into deposit values('106','sandip','andheri',2000,'1996-03-31');

insert into deposit values('107','shivani','virar',1000,'1995-07-05');

insert into deposit values('108','kranti','nehruplace',5000,'1996-06-02');

insert into deposit values('109','minu','powai',7000,'1997-12-02');

**branch:**

insert into branch values('vrce','nagpur');

insert into branch values('ajni','nagpur');

insert into branch values('karolbagh','delhi');

insert into branch values('chandi','delhi');

insert into branch values('dharampeth','nagpur');

insert into branch values('m.g.road','banglore');

insert into branch values('andheri','bombay');

insert into branch values('vihar','bombay');

insert into branch values('nehru place','delhi');

insert into branch values('powai','bombay');

**customer:**

insert into customers values ('anil','calcutta');

insert into customers values ('sunil','delhi');

insert into customers values ('mehul','baroda');

insert into customers values ('mandar','patna');

insert into customers values ('madhuri','nagpur');

insert into customers values ('pramod','nagpur');

insert into customers values ('sandip','surat');

insert into customers values ('shivani','bombay');

insert into customers values ('kranti','bombay');

insert into customers values ('naren','bombay');

**borrow:**

insert into borrow values ('201','anil','vrce',1000);

insert into borrow values ('206','mehul','vrce',5000);

insert into borrow values ('311','sunil','dharampeth',3000);

insert into borrow values ('321','madhuri','andheri',2000);

insert into borrow values ('375','prmod','vihar',8000);

insert into borrow values ('481','kranti','nehru place',3000);

**1. Display customer name having living city Bombay and branch city Nagpur**

select c.city from Customer c, Branch b where c.city='Bombay' and b.city ='Nagpur';

**2. Display customer name having same living city as their branch city**

select c.city from Customer c, Branch b where c.city=b.city ;

**3. Display customer name who are borrowers as well as depositors and having living city Nagpur. 4. Display borrower names having deposit amount greater than 1000 and loan amount greater than 2000**

select br1.cname, br1.amount, d1.cname, d1.amount from Borrow br1,Deposite d1 where d1.cname = br1.cname and d1.amount > 1000 and br1.amount > 2000;

**5. Display customer name living in the city where branch of depositor sunil is located.**

select c.cname from Customer c where c.city in (select b.city from Branch b where b.bname in (select d.bname from Deposite d where d.cname='Sunil'));

**6. Create an index on deposit table**

create index deposit\_index on deposit(actno);

**Q.13 Create the following tables.**

**1)PUBLISHER( PID , PNAME ,ADDRESS ,STATE ,PHONE ,EMAILID );**

**2)BOOK( ISBN ,BOOK\_TITLE , CATEGORY , PRICE , COPYRIGHT\_DATE , YEAR ,PAGE\_COUNT ,PID );**

**3) AUTHOR(AID,ANAME,STATE,CITY ,ZIP,PHONE,URL )**

**4) AUTHOR\_BOOK(AID,ISBN); 5) REVIEW(RID,ISBN,RATING);**

**Solve following queries by SQL**

create table publisher(pid int, pname varchar(50), address varchar(50), state varchar(50), phone varchar(50), emailid varchar(50));

create table book(isbn varchar(50),book\_title varchar(50), category varchar(50), price int, copyright\_date int , year int,page\_count int ,pid int );

create table author(aid int,aname varchar(50),state varchar(50),city varchar(50),zip int,phone varchar(50),url varchar(50));

create table author\_book(aid int,isbn varchar(50));

create table review(rid int,isbn varchar(50),rating int);

insert into publisher(pid, pname, address, state, phone, emailid ) values (1, 'sunrise', 'mumbai', 'maharashtra', '9098765432', 'sunrise12@gmail.com');

insert into publisher(pid, pname, address, state, phone, emailid ) values (2, 'mehta','pune', 'maharashtra', '9128765432', 'addison 12@gmail.com');

insert into publisher(pid, pname, address, state, phone, emailid ) values (3,'morgan kaufmann', 'korth', 'maharashtra', '9548765432', 'morgan12@gmail.com');

insert into book(isbn, book\_title, category, price, copyright\_date, year, page\_count, pid) values ('0321228383', 'database systems', 'a', 255, 12, 2007, 86, 1);

insert into book(isbn, book\_title, category, price, copyright\_date, year, page\_count, pid) values ('0321228384', 'computer science', 'b', 205, 12, 2007, 80, 2);

insert into book(isbn, book\_title, category, price, copyright\_date, year, page\_count, pid) values ('0321228385', 'out of their minds', 'c', 145, 12, 2007, 70, 3);

insert into author\_book(aid, isbn) values (10,'0321228383');

insert into author\_book(aid, isbn) values (20,'0321228384');

insert into author\_book(aid, isbn) values (30,'0321228385');

insert into review (rid, isbn, rating) values(201, '0321228383', 4);

insert into review (rid, isbn, rating) values(202, '0321228384', 3);

insert into review (rid, isbn, rating) values(203, '0321228385', 4);

insert into author (aid, aname, state, city, zip, phone, url) values (10, 'Chetan bhagat', 'maharashtra', 'mumbai', 401205, '9098765432', 'www.k10.com');

insert into author (aid, aname, state, city, zip, phone, url) values (20, 'lewis', 'maharashtra', 'pune',410501, '9128765432', 'www.lewis20.com');

insert into author (aid, aname, state, city, zip, phone, url) values (30, 'bernstein', 'maharashtra', 'korth', 402501, '9548765432', 'www.bern30.com');

**1. Retrieve city, phone, url of author whose name is ‘CHETAN BHAGAT’.**

select city,phone,url from author where aname='Chetan Bhagat';

**2. Retrieve book title, reviewable id and rating of all books.**

select book\_title,rid,rating from review r,book b where b.isbn=r.isbn;

**3. Retrieve book title, price, author name and url for publishers ‘MEHTA’.**

select book\_title,price,aname,url from book b,author a,publisher p where b.pid=p.pid and p.pname = 'MEHTA';

**4. In a PUBLISHER relation change the phone number of ‘MEHTA’ to 123456**

update publisher set phone='123456' where pname='mehta';

select \* from publisher;

**5. Calculate and display the average, maximum, minimum price of each publisher.**

select avg(price),min(price),max(price) from book, publisher where book.pid=publisher.pid;

**6. Delete details of all books having a page count less than 100.**

delete from book where page\_count < 100;

select \* from book;

**7. Retrieve details of all authors residing in city Pune and whose name begins with character ‘C’.**

select \* from author where city='Pune' and aname like 'C%';

**8. Retrieve details of authors residing in same city as ‘Korth’.**

select \* from author where city='Korth';

**9. Create a procedure to update the value of page count of a book of given ISBN.**

**10. Create a function that returns the price of book with a given ISBN.**