Sql Queries

A 1) Create database seit
2) Create table dept, emp and project.
3) Insert records into these tables.

```
drop database seit;

create database seit;

Use seit;

create table dept
        (
        deptno int(4) primary key,
        dname varchar(20),
        loc varchar(20)
        );

create table emp
        (
        empno int primary key,
        ename varchar(20),
        job char(10),
        mgr int,
        hiredate date,
        sal float,
        comm float,
        deptno int,
        constraint fk_empno foreign key (mgr) references emp(empno),
        constraint fk_deptno foreign key (deptno) references dept(deptno)
        );

create table project
        (
        prono int primary key,
        pname varchar(20),
        budget float,
        deptno int,
        constraint fk1_deptno foreign key (deptno) references dept(deptno)
        );

insert into dept values(10,'accouting', 'new york');

insert into dept values(20,'research', 'dallas');

insert into dept values(30,'sales', 'chicago');

insert into dept values(40,'operations', 'boston');

insert into emp values(7839,'king','president',null,'1981-11-17', 5000,null,10);
```

```
insert into emp values(7566,'jones','manager',7839,'1981-04-02',
2975,null,20);

insert into emp values(7698,'blake','manager',7839,'1981-05-01',
2850,null,30);

insert into emp values(7782,'clark','manager',7839,'1981-06-
09',2450,null,10);

insert into emp values(7934,'miller','clerk',7782,'1982-01-23', 1300,null,10);

insert into emp values(7900,'james','clerk',7698,'1981-12-03', 950,null,30);

insert into emp values(7499,'allen','saleman',7698,'1981-02-20',
1600,300,30);

insert into emp values(7654,'martin','saleman',7698,'1981-10-
28',1250,1400,30);

insert into emp values(7844,'turner','saleman',7698,'1981-10-08',
1500,null,30);

insert into emp values(7788,'scott','analyst',7566,'1982-12-09', 3000,null,20);

insert into emp values(7902,'ford','analyst',7566,'1981-12-04', 3000,null,20);

insert into emp values(7369,'smith','clerk',7902,'1980-12-17', 800,null,20);

insert into emp values(7876,'adams','clerk',7788,'1983-01-03', 1100,null,20);

insert into emp values(7521,'ward','saleman',7698,'1981-02-22',
1250,500,30);

insert into project values(1,'SE IT', 5000,10);

insert into project values(2,'TE IT', 6000,20);

insert into project values(3,'BE IT', 8000,30);

Select * from dept;

Select * from emp;

Select * from project;
```

1 **List all employee from emp table**
```
select * from emp;
```
2 **List all employee from department 20.**
```
select * from emp where deptno=20;
```
3 **List empno, ename and sal of all employees whose salary is greater than 1000.**
```
select empno, ename ,sal from emp where sal> 1000;
```
4 **List empno, ename and sal of all employees whose job is manager.**
```
select empno, ename ,sal from emp where job='manager';
```

5 List all clerks in department 20.

select * from emp where job='clerk' and deptno=20;

6 List employee number, name and department number of all saleman and analyst both.

select empno, ename, deptno from emp where job='saleman' or
job='analyst';

7 List the employees who are not managers.

select ename from emp where job <> 'manager';

8 List employees who are joined before end of September 81.

select * from emp where hiredate <= '1981-09-30';

9 List employees whose empno are 7369, 7521, 7839, 7839, 7934, 7768 using in operator.

select * from emp where empno in (7369, 7521, 7839, 7839, 7934,7768);

10 List employees who do not belong to department 10, 30, and 40 using in operator.

select * from emp where deptno not in (10,30,40);

11 List employee number, name and salary, whose salary is in between 1000 and 3000 using between operators.

select empno, ename , sal from emp where sal between 1000 and 3000;

12 List employees who are not joined before end of Jun 81 and after Dec 81.

select * from emp where hiredate not between '1981-06-30' and '1981-12-31';

13 List the distinct job from emp table.

select distinct job from emp;

14 List the employees who does not get commission.

select * from emp where comm is null;

15 List the employees who get commission.

select * from emp where comm is not null;

16 List all employees whose name starts with 's'.

select * from emp where ename like 's%';

17 List all employees whose name ends with 'n'.

select * from emp where ename like '%n';

18 List all employees whose name contains two 'a'.

select * from emp where ename like '%a%a%';

19 List all employees whose name contains second character 'a'.

select * from emp where ename like '_a%';

20 List all employees whose name contains minimum and maximum 5 characters.

select * from emp where ename like '_____'; (5 underscores)

21 List name, sal, pf amount for each employee. Pf amount is 10 percentage of salary. Display name of column as PF.

select ename, sal, sal*.1 PF from emp;

22 List empno, ename and sal for all employees. Order the result in ascending order according sal.

select empno ,ename, sal from emp order by sal; or
select empno ,ename, sal from emp order by 3; or
select empno ,ename, sal from emp order by 3 asc;

23 List all employees in descending order of joining date.

select * from emp order by hiredate desc;

24 List empno, ename, sal, deptno of all employees from emp table. Order them according to department no in ascending order and then sal in descending order.

select empno, ename, sal, deptno from emp order by deptno asc, sal desc;

25 **List derived column Bonus 10 percentage of salary.**
select sal*.10 bonus from emp;

26 **Derived column Bonus 10 percentage of salary give name as bonus;**
select ename, sal, sal*.10 bonus from emp;

27 **List Aggregate functions in SQL.**
Aggregate functions
- count
- min
- max
- avg

28 **List number of employees working in each department.**
select deptno, count(*) from emp group by deptno;

29 **List average salary paid to each job**
select job, avg(sal) from emp group by job;

30 **List minimum sal in each department**
select job, avg(sal) from emp group by job;

31 **List minimum sal in each department order by avg sal**
select deptno, min(sal) from emp group by deptno order by 2 desc;

32 **List average sal paid to each job in each department**
select job, avg(sal), deptno from emp group by job, deptno order by deptno;

33 **List deptno, avg(sal) for each department if avg(sal) is greator than 2000.**
select avg(sal), deptno from emp group by deptno having avg(sal)>2000;

34 **List name of employee, deptno, department name from emp and dept table.**
select ename, dept.deptno, dname from emp, dept where emp.deptno = dept.deptno;

35 **List the number of different jobs available in emp table.**
select count(distinct job) Jobs from emp;

36 **List total salary payable to all employees.**
select sum(sal) Salary from emp;

37 **List maximum salary payable to salesman.**
select max(sal) Maximum from emp where job= 'saleman';

38 **List minimum salary paid in department 10.**
select min(sal) Minimum from emp where deptno=10;

39 **List average salary and number of employees working in department 20.**
select count(*) Total, avg(sal) from emp where deptno=20;

40 **List department number and number of employees working in each department.**
select deptno, count(*) Total from emp group by deptno;

41 **List department number and total salary paid for each department.**
select deptno, sum(sal) Total from emp group by deptno;

42 **List job and number of employees in the job. Display result in descending order of total jobs.**
select job, count(job) from emp group by job order by 2 desc;

43 **List job, total salary, minimum salary, and maximum salary paid to each job.**
select job, sum(sal), min(sal), max(sal) from emp group by job;

44 **List average salary for each job excluding manager.**
select job, avg(sal) from emp group by job having job <> 'manager';

45 **List average salary for each job within each department then order by deptno.**
select deptno, job, avg(sal)from emp group by deptno, job order by deptno;

46 List average salary of each department having 5 or more employees working in it.

```
select deptno, count(*), avg(sal) from emp group by deptno having
count(*)>=5;
```

47 List name of employee, deptno, department name from emp and dept table.

```
select  ename, dept.deptno, dname from emp, dept ;
```

48 List name of employee, deptno, department name from emp and dept table list blank department also.

```
select ename, dept.deptno, dname from emp
                    right outer join dept
                                on
                                emp.deptno=dept.deptno;

        select ename, dept.deptno, dname from dept
                    left outer join emp
                                on
                                emp.deptno=dept.deptno;
```

49 List employee number, name of eployee and his manager name.

```
select e.empno, e.ename, m.ename from emp e, emp m where
e.mgr=m.empno;
```

50 List the employees number, name, department name and department number from emp and dept table (use equi join).

```
select empno, ename, dname, emp.deptno from emp, dept where
emp.deptno=dept.deptno;
```

51 List name of employee and name of manager.

```
select e.ename worker, m.ename manager from emp e , emp m where e.mgr=
m.empno;
```

52 List employee number, name of employee and his manager name. Also list the employee who does not report to anyone.

```
select e.empno, e.ename, m.ename from emp e left outer join emp m on
m.empno=e.mgr;
```

53 List name of employee and name of manager. Also display name of employee who does not have manager.

```
select e.ename worker, m.ename manager from emp e left outer join emp m
on e.mgr=m.empno;
```

54 List the employee's number, name, department name, and department number from emp and dept table also list blank department. (Use outer join).

```
select e.empno, e.ename, d.dname, d.deptno from emp e right outer join dept
d on e.deptno=d.deptno;
```

55 List different designations in department 10 and 20 using set operator.

```
select job from emp where deptno=10 union select job from emp where
deptno=20;
```

56 list different designations in department 10 but not present department 20 using set operator.

```
select job from emp where deptno=10 except select job from emp where
deptno=20;
```

57 list different designations in department 10 and also present in department 20 using set operator.

```
select job from emp where deptno=10 intersect select job from emp where
deptno=20;
```

58 List employee belonging to department of miller

```
select * from emp where deptno= (select deptno from emp where
ename='miller');
```

59 List all employess from deptartment 20 those who are drawing more salary than average salary of department 20;

```
select * from emp where deptno=20 and sal >= (select avg(sal) from emp
where deptno =20 group by deptno);
```

60 List employee details who earn salary greator than average salary of there department.

```
select * from emp outer where sal > (select avg(sal) from emp where
deptno= outer.deptno);
```

61 List all employees who have joined the company before their manager.

```
select e.ename worker, m.ename manager, e.hiredate, m.hiredate from emp
e, emp m where e.mgr=m.empno and e.hiredate<m.hiredate;
```

62 create a duplicate table emp1 using emp table;

```
create table emp1 as select * from emp;
```

63 describe emp1;

```
desc emp1;
```

64 Delete the column comm from emp1 table.

```
Alter table emp1 drop comm;
```

65 Add the column comm of type float(10,2) into emp1 table.

```
alter table emp1 add comm float(10,2);
```

66 Rename the column comm to comm1 of emp1 table.

```
alter table emp1 rename column comm to comm1;
```

67 Change the column comm1 data type to float(12,2) of emp1 table.

```
alter table emp1 modify column comm1 float(12,2);        OR
alter table emp1 modify comm1 float(12,2);
```

68 Add constraint primary key on column empno of emp1 table.

```
alter table emp1 add constraint pk1 primary key (empno);
```

69 Add constraint unique on column ename of emp1 table.

```
alter table emp1 add  constraint un21 unique(ename);
```

70 Delete constraint unique on column ename of emp1 table.

```
alter table emp1 drop  constraint un21;
```

71 create table student with following details.

Rollno int primary key,
name varchar(20) not null

```
create table student
                (
                rollno int primary key,
                name varchar(20) not null
                );
insert into student values(101, null);
ERROR 1048 (23000): Column 'name' cannot be null

insert into student values(101, 'abcd');
Query OK, 1 row affected (0.01 sec)
```

72 create table student with following details.

Rollno int primary key,
name varchar(20) not null and rollno should be > 100

```
create table student
        (
        rollno int primary key,
        name varchar(20) not null,
        check(rollno >100)
        );

    insert into student values(11, 'abcd');
    ERROR 3819 (HY000): Check constraint 'student_chk_1' is violated.
```

73 create table student with following details.
Rollno int primary key,
name varchar(20) not null and name default value is ‘abcd’

```
create table student
        (
        rollno int primary key,
        name varchar(20) default ‘abcd’
        );

create table student (
   rollno int primary key,
   name varchar(20) default ('abcd')
   );
Query OK, 0 rows affected (0.03 sec)

mysql> insert into student (rollno) values (101);
Query OK, 1 row affected (0.01 sec)

mysql> select * from student;
+--------+------+
| rollno | name |
+--------+------+
|    101 | abcd |
+--------+------+
1 row in set (0.00 sec)
```

74 Add constraint not null on name column of student table.

```
Alter table student modify name varchar(20) not null;
```

75 Delete primary key constraint of rollno column of studen ttable.

```
Alter table student drop primary key;
```

76 Delete the foreign key constraint on rollno of student table

```
ALTER TABLE student drop FOREIGN KEY FK_PersonOrder;
```

77 Delete the check constraint on rollno of student table

```
ALTER TABLE Student DROP CHECK CHK_PersonAge;
```

78 Add constraint default on name column of student table.

```
ALTER TABLE Student ALTER name  SET DEFAULT  'jnm';
insert into student (rollno) values (100);
select * from student;
```

79 Delete constraint default on name column of student table.

```
ALTER TABLE Student drop  name  DEFAULT  ;
```

80 Add constraint not null on name column of student table.

```
Alter table student modify name varchar(20) null;
```