**DATABASE QUERY:**

create database emp;

use emp;

create table Programmer (ename VARCHAR(28) NOT NULL, dob date NOT NULL, doj date NOT NULL, sex varchar(1) NOT NULL, prof1 varchar(20), prof2 varchar(20), salary integer(4) NOT NULL);

insert into Programmer values ("somdutt",21-04-1966,21-04-1992,'m','pascal','basic',3200);

insert into programmer values ("anand","1966-04-12","1992-04-21","m","pascal","basic",3200),("altaf","1964-07-02","1990-11-13","m","clipper","cobol",2800),("juliana","1960-01-13","1990-04-21","f","cobol","dbase",3000),("kamala","1968-10-30","1992-01-02","f","c","dbase",2900),("mary","1970-06-24","1991-02-01","f","cpp","oracle",4500),("nelson","1985-09-11","1989-03-11","m","cobol","dbase",2500),("pattrick","1965-11-10","1990-04-21","m","pascal",null,2800),("qadir","1965-08-31","1990-04-21","m","assembly","c",3000),("ramesh","1967-05-03","1991-02-26","m","pascal","dbase",3200),("rebecca","1997-01-01","1990-12-01","f","basic","cobol",2500),("remitha","1970-04-19","1993-04-20","f","c","assembly",3000),("revathi","1969-12-02","1992-01-02","f","pascal","basic",3200),("vijaya","1965-12-14","1992-05-02","f","foxpro","c",4500);

create table Software (ename varchar(28) NOT NULL, title varchar(20) NOT NULL, dev\_in varchar(20) NOT NULL, scost float(7,2), dcost integer(5), sold integer(3));

insert into Software values ("somdutt","parachutes", "basic", 399.95, 6000, 43);

insert into software values ("mary","readme","cpp",100.00,1200,84),("anand","parachutes","basic",399.95,6000,43),("anand","videotitling","pascal",7500.00,16000,9),("juliana","inventory","cobol",3000.00,3500,0),("kamala","payrollprg","dbase",9000.00,20000,7),("mary","financialacc","oracle",18000.00,85000,4),("mary","codegenerratop","c",4500.00,20000,23),("pattrick","readme","cpp",300.00,1200,84),("qadir","bombsaway","assembly",750.00,5000,11),("qadir","vaccines","c",1900.00,3400,21),("ramesh","hotlimgmt","dbase",12000.00,35000,4),("ramesh","deadlee","pascal",599.95,4500,73),("remitha","pcutitles","c",725.00,5000,51),("remitha","tsrhelppkg","assembly",2500.00,6000,7),("revathi","hospitalmgt","pascal",1100.00,75000,2),("vijaya","tsreditor","c",900.00,700,6);

create table Studies (ename varchar(28) NOT NULL, splace varchar(30) NOT NULL, course varchar(30) NOT NULL, ccost integer(6) NOT NULL);

insert into Studies values ("somdutt", "sabhari", "pgdca", 4500);

insert into Studies values ("devdutt","bdps","dcs", 5000);

insert into studies values ("anand","sabhari","pgdca",4500),("atlaf","coit","dca",7200),("juliana","bits","mca",22000),("kamala","pragathi","dcp",5000),("mary","sabhari","pgdca",4500),("nelson","pragathi","dap",6200),("patrick","pragathi","dcap",5200),("qadir","apple","hdcp",14000),("ramesh","sabhari","pgdca",4500),("resecca","brilliant","dcp",11000),("remitha","bdps","dcs",6000),("vijaya","bdps","dca",48000);

**QUERIES – I**

1. select avg(scost) from Software where dev\_in = "pascal";
2. select ename, datediff(current\_date(),dob)/365 as age from Programmer;
3. select ename, datediff(current\_date(),dob)/365 as age from Programmer where prof1=”dcs”;
4. select title,sold from Software where sold=(select max(sold) from Software);
5. select ename, dob from Programmer where month(dob) = 1;
6. select min(ccost) from Studies;
7. select count(course) from Studies where course=”pgdca”;
8. select sum((scost\*sold)-dcost) from Software where dev\_in=”c”;
9. select title from Software where ename = “Ramesh”;
10. select count(ename) from Studies where splace=”sabhari”;
11. select title from Software where (scost\*sold)-dcost>20000;
12. select ceil(dcost/scost) from software;
13. select title,max(dcost) from software where dev\_in=”basic”;
14. select title from software where (scost\*sold)>=dcost;
15. select count(title) from Software where dev\_in=”dbase”;
16. select count(ename) from Studies where splace=”pragathi”
17. select count(ename) from Programmer where salary between 5000 and 10000;
18. select avg(ccost) as average from Studies;
19. select ename from Programmer where prof1=”c” or prof2=”c”;
20. select ename from Programmer where prof1=”Cobol” or prof2=”Pascal”;
21. select count(ename) from programmer where prof1 != pascal' and prof2 != 'c' and prof1 != 'c' and prof2 != 'pascal';
22. select max(datediff(current\_date(),dob)/365) from Programmer;
23. select avg(datediff(current\_date(),dob)/365) from Programmer where sex = “f”;
24. select ename,dob from programmer where month(dob) = month(current\_date());
25. select ename,dob from programmer where month(dob) = month(current\_date());
26. select count(ename) from Programmer where sex=’f’;
27. select prof1,prof2 from Programmer where sex=’m’;
28. select avg(salary) from Programmer;
29. select count(ename) as draw\_salary from programmer where salary >= 2000 and salary <= 4000;
30. select \* from programmer where prof1!= 'cobol' and prof2!= 'cobol' and prof1!= 'clipper' and prof2!= 'clipper' and prof1!= 'pascal' and prof2!= 'pascal';
31. select count(ename) from Programmer where prof1=’c’ or prof2=’c’ and (datediff(current\_date(),dob)/365) > 24;
32. select ename,sum(scost\*sold) from software group by ename;
33. select \* from Programmer where datediff(current\_date(),doj)/365 < 1;
34. select \* from Programmer where datediff(current\_date(),doj)/365 <2 and datediff(current\_date(),doj)/365 >1;
35. select title,dcost-(scost\*sold) as amount from Software where dcost-(scost\*sold) > 0;
36. select title from Software where sold=0;
37. select dcost from Software where ename=”mary”;
38. select distinct splace from Studies;
39. select distinct count(course) from Studies;
40. select enamr from Programmer where ename like “%a%a%;
41. select ename,salary from programmer order by salary desc;
42. select count(ename) from Programmer where prof1=”cobol” or prof2=”cobol” and datediff(current\_date(),doj)/365 > 2;
43. select min(length(ename)) from Programmer;
44. select avg(dcost) from software where dev\_in=”cobol”;
45. select ename,sex,dob,doj from Programmer;
46. select max(salary) as highest\_salary,min(salary) as lowest\_salary,avg(salary) as average\_salary from programmer where salary > 2000;
47. select ename, salary from Programmer where prof1!=”cobol” and prof2!=”cobol”;
48. select title,scost,dcost,abs(dcost-scost) as diff from Software order by diff desc;
49. select ename,dob,doj from Prpgrammer where month(doj)==month(dob);
50. select title from Software where like “% %”;

**QUERIES-II:**

1. select count(title) from Software group by dev\_in;
2. select count(title) from Software group by ename;
3. select count(ename) from Programmer where sex=”m” or sex=”f”;
4. select max(dcost) as costliest, max(scost\*sold) from Software group by dev\_in;
5. select year(dob) , count(ename) from programmer group by year(dob);
6. select year(doj) , count(ename) from programmer group by year(doj);
7. select month(dob) , count(ename) from programmer group by month(dob);
8. select month(doj) , count(ename) from programmer group by month(doj);
9. select count(ename) from Programmer group by prof1;
10. select count(ename) from Programmer group by prof2;
11. select ename from Programmer group by salary;
12. select ename from Studies group by splace;
13. select ename from Studies group by course;
14. select sum(dcost) from Software group by dev\_in;
15. select title,scost from software group by dev\_in;
16. select dcost from Software group by ename;
17. select ename, sum(scost\*sold) as sales\_value from software group by ename;
18. select ename,count(title) from Software group by ename;
19. select sum(scost) from software group by dev\_in;
20. select ename, max(dcost), min(dcost) from software group by ename;
21. select dev\_in, avg(dcost), avg(scost) from software group by dev\_in;
22. select course,count(courses),avg(ccost) from Studies group by course;
23. select splace,count(ename) from Studies group by splace;
24. select sex, group\_concat(ename) from programmer group by sex;
25. select title, group\_concat(ename) from Software group by title;
26. select dev\_in,count(title) from software group by dev\_in;
27. select count(title) from software group by dev\_in having dcost<1000;
28. select avg(dcost-scost) from software group by dev\_in;
29. select sum(scost),sum(dcost),sum(scost)-sum(dcost) from software group by ename having (scost\*sold)<dcost;
30. select max(salary), min(salary), avg(salary) from Programmer where salary>2000;

**QUERIES-III:**

1. select ename,salary from programmer where salary=(select max(salary) from Programmer);
2. select ename,max(salary) from programmer where sex=’f’ and (prof1=”cobol” or prof2=”cobol”);
3. select dev\_in as language, ename from programmer where (prof1, salary) in (select prof1, max(salary) from programmer group by prof1) group by language;
4. select enamefrom programmer order by doj limit 1;
5. select ename from programmer order by doj desc limit 1;
6. select dev\_in as language from (select dev\_in, count(\*) as num\_programmers from software group by dev\_in) as languagecount where num\_programmers = 1;
7. select ename from programmer where prof1 = 'dbase' or prof2 = 'dbase' order by dob asc limit 1;
8. select splace from studies group by splace order by count(distinct ename) desc limit 1;
9. select ename from studies where splace = ( select splace from studies group by splace order by count(distinct ename) desc limit 1) group by ename order by dob asc limit 1;
10. select ename from programmer where sex = 'f' and salary > 3000 and prof1 not in ('c', 'c++', 'oracle', 'dbase') and (prof2 not in ('c', 'c++', 'oracle', 'dbase') or prof2 is null);
11. select course from studies group by course order by max(ccost) desc limit 1;
12. select course from studies group by course order by count(\*) desc limit 1;
13. select splace, course from studies where ccost < (select avg(ccost) from studies);
14. select splace from studies where ccost = (select max(ccost) from studies);
15. select course from studies group by course having count(distinct ename) < (select avg(student\_count) from (select count(distinct ename) as student\_count from studies group by course) as avg\_student\_count);
16. select splace from studies where course = (select course from studies group by course order by max(ccost) desc limit 1);
17. select course from studies where ccost between (select avg(ccost) - 1000 from studies) and (select avg(ccost) + 1000 from studies);
18. select title from software where dcost = (select max(dcost) from software);
19. select title from software where scost = (select min(scost) from software);
20. select ename from software where sold = (select min(sold) from software);
21. select dev\_in from software where scost = (select max(scost) from software);
22. select sold from software where abs(scost - dcost) = ( select min(abs(scost - dcost)) from software);
23. select title from software where dev\_in = 'pascal' order by scost desc limit 1;
24. select dev\_in from software group by dev\_in order by count(\*) desc limit 1;
25. select ename from software group by ename order by count(\*) desc limit 1;
26. select ename from software where scost = (select max(scost) from software);
27. select title from software where sold < (select avg(sold) from software);
28. select ename from programmer where sex = 'f' and salary > ( select max(salary) from programmer where sex = 'm');
29. select prof1 as language from programmer group by prof1 order by count(\*) desc limit 1;
30. select ename from software group by ename having sum(scost) > 2 \* sum(dcost);
31. select ename, min(title) as cheapest\_package, dev\_in as language from software group by ename, dev\_in;
32. select ename from programmer where sex = 'm' and dob = ( select min(dob) from programmer where sex = 'm' and year(dob) = 1965);
33. select ename, (select dev\_in from software where p.ename = software.ename and scost = (select max(scost) from software where ename = p.ename)) as highest\_selling\_language, (select dev\_in from software where p.ename = software.ename and scost = (select min(scost) from software where ename = p.ename)) as lowest\_selling\_language from programmer p;
34. select ename from programmer where sex = 'f' and year(doj) = 1992 order by dob asc limit 1;
35. select year(dob) as birth\_year, count(\*) as number\_of\_programmers from programmer group by year(dob) order by number\_of\_programmers desc limit 1;
36. select month(doj) as join\_month, count(\*) as number\_of\_programmers from programmer group by join\_month order by number\_of\_programmers desc limit 1;
37. select prof1 as language from programmer group by prof1 order by count(\*) desc limit 1;
38. select ename from programmer where sex = 'm' and salary < (select avg(salary) from programmer where sex = 'f');

**QUERIES-IV:**

1. select \*from programmer where salary in (select salary from programmer group by salary having count(\*) > 1);
2. select \*from software where ename in (select ename from programmer where sex = 'm' and salary > 3000);
3. select \*from software where ename in (select ename from programmer where sex = 'f') and dev\_in = 'pascal';
4. select \*from programmer where year(doj) < 1990;
5. select \*from software where ename in (select ename from programmer where sex = 'f' and splace = 'pragathi') and dev\_in = 'c';
6. select ename, splace, count(\*) as num\_packages, sum(sold) as total\_copies\_sold, sum(scost \* sold) as sales\_value from software s join programmer p on s.ename = p.ename group by ename, splace;
7. select \*from software where dev\_in = 'dbase' and ename in (select ename from programmer where sex = 'm' and splace = (select splace from programmer group by splace order by count(\*) desc limit 1));
8. select \*from software where ename in (select ename from programmer where (sex = 'm' and year(dob) < 1965) or (sex = 'f' and year(dob) > 1975));
9. select \*from software where dev\_in not in ( select prof1 from programmer);
10. select \*from software where dev\_in not in (select prof1 from programmer union select prof2 from programmer);
11. select \*from software where ename in (select ename from programmer where sex = 'm' and splace = 'sabhari');
12. select ename from programmer where ename not in (select distinct ename from software);
13. select sum(scost) as total\_cost from software where ename in ( select name from programmer where splace = 'apple');
14. select ename from programmer group by ename, doj having count(\*) > 1;
15. select ename from programmer group by prof2 having count(\*) > 1;
16. select splace, sum(scost \* sold) as total\_sales\_value from software sjoin programmer p on s.ename = p.ename group by splace;
17. select splace from programmer where ename in (select ename from software where scost = (select max(scost) from software));
18. select distinct language from (select prof1 as language from programmer union select prof2 as language from programmer) as languages where language not in (select distinct dev\_in from software);
19. select p.ename, p.salary, s.title, s.scost from programmer p, software s where p.ename = s.ename and s.scost = (select max(scost) from software);
20. select ename, salary / ccost as months\_to\_recover from programmer, studies where programmer.ename = studies.ename;
21. select title from software where ename in (select ename from programmer where datediff(now(), doj) < 3\*365) order by scost desc limit 1;
22. select avg(salary) as average\_salary from programmer where ename in ( select ename from software group by ename having sum(scost \* sold) > 50000);
23. select count(\*) as num\_packages from software where ename in (select ename from studies where ccost = (select min(ccost)from studies));
24. select count(\*) as num\_packages, splace from software, studies where software.ename = studies.ename and scost = (select min(scost) from software)group by splace;
25. select count(\*) as num\_packages from software where ename in (select ename from programmer where sex = 'f' and salary > (select max(salary) from programmer where sex = 'm' ));
26. select count(\*) as num\_packages from software where ename in (select ename from programmer where splace = 'bdps' order by datediff(now(), doj) desc limit 1);
27. select distinct p.ename, case when s.ename is not null then s.splace else 'n/a' end as splace from programmer p, software s where p.ename = s.ename or s.ename is null;
28. select prof1, count(distinct ename) as num\_programmers, count(\*) as num\_packages from programmer group by prof1;
29. select ename, count(\*) as num\_packages from software group by ename;
30. select \*from programmer where ename in (select ename from studies where splace = 's.s.i.l.');