**NAME: SENTHIL KUMAR T**

**ASSIGNMENT ON SQL**

**CREATE DATABASE senthil;**

**USE senthil;**

**CREATE TABLE Programmer (**

**pname VARCHAR(28) NOT NULL,**

**dob DATE NOT NULL,**

**doj DATE NOT NULL,**

**sex VARCHAR(1) NOT NULL,**

**prof1 VARCHAR(20),**

**prof2 VARCHAR(20),**

**salary INT NOT NULL**

**);**

**INSERT INTO Programmer VALUES**

("somdutt", '1996-04-21', '1992-04-21', 'm', 'pascal', 'basic', 3200),

("ramesh", '1967-05-03', '1991-02-26', 'm', 'cobol', 'dbase', 3200),

("kamala", '1968-10-30', '1992-01-02', 'f', 'des', 'pascal', 2900);

**CREATE TABLE Software (**

**pname VARCHAR(28) NOT NULL,**

**title VARCHAR(20) NOT NULL,**

**dev\_in VARCHAR(20) NOT NULL,**

**scost FLOAT(7,3),**

**dcost INT,**

**sold INT**

**);**

**INSERT INTO Software VALUES**

("somdutt", "parachutes", "pascal", 399.95, 6000, 43),

("kamala", "payrollprg", "c", 9000.00, 20000, 7),

("kamala", "payrollprg", "pascal", 7000.00, 15000, 6),

("ramesh", "deadlee", "cobol", 599.95, 4500, 73),

("ramesh", "hotlimgmt", "dbase", 1000.00, 35000, 4);

**CREATE TABLE Studies (**

**pname VARCHAR(28) NOT NULL,**

**institute VARCHAR(30) NOT NULL,**

**course VARCHAR(30) NOT NULL,**

**coursefee INT NOT NULL**

**);**

**INSERT INTO Studies VALUES**

("somdutt", "sabhari", "pgdca", 4500),

("ramesh", "sabhari", "pgdca", 4500),

("kamala", "pragathi", "dcp", 5000);

**QUERIES – I**

1. SELECT avg(scost) FROM Software WHERE dev\_in = "pascal";
2. SELECT pname, datediff(current\_date(),dob)/365 as age FROM Programmer;
3. SELECT pname, 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 pname, dob FROM Programmer WHERE month(dob) = 1;
6. SELECT min(coursefee) 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 pname = “Ramesh”;
10. SELECT count(pname) FROM Studies WHERE institute=”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(pname) FROM Studies WHERE institute=”pragathi”
17. SELECT count(pname) FROM Programmer WHERE salary between5000 and 10000;
18. SELECT avg(coursefee) as average FROM Studies;
19. SELECT pname FROM Programmer WHERE prof1=”c” or prof2=”c”;
20. SELECT pname FROM Programmer WHERE prof1=”Cobol” or prof2=”Pascal”;
21. SELECT count(pname) 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 pname,dob FROM Programmer WHERE month(dob) = month(current\_date());
25. SELECT pname,dob FROM Programmer WHERE month(dob) = month(current\_date());
26. SELECT count(pname) FROM Programmer WHERE sex=’f’;
27. SELECT prof1,prof2 FROM Programmer WHERE sex=’m’;
28. SELECT avg(salary) FROM Programmer;
29. SELECT count(pname) 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(pname) FROM Programmer WHERE prof1=’c’ or prof2=’c’ and (datediff(current\_date(),dob)/365) > 24;
32. SELECT pname,sum(scost\*sold) FROM Software GROUP BY pname;
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 pname=”mary”;
38. SELECT distinct institute FROM Studies;
39. SELECT distinct count(course) FROM Studies;
40. SELECT pname FROM Programmer WHERE pname like ‘%a%a%’;
41. SELECT pname,salary FROM Programmer ORDER BY salary desc;
42. SELECT count(pname) FROM Programmer WHERE prof1=”cobol” or prof2=”cobol” and datediff(current\_date(),doj)/365 > 2;
43. SELECT min(length(pname)) FROM Programmer;
44. SELECT avg(dcost) FROM Software WHERE dev\_in=”cobol”;
45. SELECT pname,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 pname, 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 pname,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 ppname, count(\*) as number\_of\_packages FROM Software GROUP BY ppname;
3. SELECT sex, count(\*) as number\_of\_Programmers FROM Programmer GROUP BY sex;
4. SELECT dev\_in as language, max(dcost) as costliest\_package, max(scost) as highest\_selling FROM Software GROUP BY dev\_in;
5. SELECT year(dob) as birth\_year, count(\*) as number\_of\_people FROM Programmer GROUP BY year(dob);
6. SELECT year(doj) as join\_year, count(\*) as number\_of\_people FROM Programmer GROUP BY year(doj);
7. SELECT month(dob) as birth\_month, count(\*) as number\_of\_people FROM Programmer GROUP BY month(dob);
8. SELECT month(doj) as join\_month, count(\*) as number\_of\_people FROM Programmer GROUP BY month(doj);
9. SELECT dev\_in as language, prof1, count(\*) as count\_of\_prof1 FROM Software GROUP BY dev\_in, prof1;
10. SELECT dev\_in as language, prof2, count(\*) as count\_of\_prof2 FROM Software GROUP BY dev\_in, prof2;
11. SELECT case

when salary < 3000 then 'less than 3000'

when salary >= 3000 and salary < 5000 then '3000 - 4999'

when salary >= 5000 and salary < 7000 then '5000 - 6999'

when salary >= 7000 and salary < 9000 then '7000 - 8999'

else 'more than 9000' end as salary\_group, count(\*) as number\_of\_people FROM Programmer GROUP BY salary\_group;

1. SELECT institute, count(\*) as number\_of\_people FROM Studies GROUP BY institute;
2. SELECT course, count(\*) as number\_of\_people FROM Studies GROUP BY course;
3. SELECT dev\_in as language, sum(dcost) as total\_development\_cost FROM Software GROUP BY dev\_in;
4. SELECT dev\_in as language, sum(scost) as total\_selling\_cost FROM Software GROUP BY dev\_in;
5. SELECT pname, sum(dcost) as total\_development\_cost FROM Software GROUP BY pname;
6. SELECT pname, sum(scost \* sold) as total\_sales\_value FROM Software GROUP BY pname;
7. SELECT pname, count(\*) as number\_of\_packages\_developed FROM Software GROUP BY pname;
8. SELECT pname, dev\_in as language, sum(scost \* sold) as total\_sales\_cost FROM Software GROUP BY pname, dev\_in;
9. SELECT pname, max(title) as costliest\_package,min(title) as cheapest\_package FROM Software GROUP BY pname;
10. SELECT dev\_in as language,avg(dcost) as average\_development\_cost,

avg(dcost + scost) as average\_cost,

avg(scost) as average\_selling\_cost,

avg(scost / sold) as average\_price\_per\_copy

FROM Software GROUP BY dev\_in;

1. SELECT institute,count(distinct course) as number\_of\_courses, avg(coursefee) as average\_cost\_per\_course FROM Studies GROUP BY institute;
2. SELECT institute,count(distinct pname) as number\_of\_students FROM StudiesGROUP BY institute;
3. SELECT distinct pname, sex FROM Programmer;
4. SELECT pname as Programmer\_name,(SELECT title FROM Software WHERE pname = p.pname) as package\_name FROM Programmer p;
5. SELECT dev\_in as language, count(\*) as number\_of\_packages FROM Software GROUP BY dev\_in;
6. SELECT dev\_in as language, count(\*) as number\_of\_packages FROM Software WHERE dcost < 1000 GROUP BY dev\_in;
7. SELECT dev\_in as language, avg(scost - dcost) as average\_difference FROM Software GROUP BY dev\_in;
8. SELECT pname,

sum(scost) as total\_scost,

sum(dcost) as total\_dcost,

sum(case when scost < dcost then dcost - scost else 0 end) as amount\_to\_be\_recovered FROM Software GROUP BY pname;

1. SELECT max(salary) as highest\_salary,

min(salary) as lowest\_salary,

avg(salary) as average\_salary

FROM Programmer WHERE salary > 2000;

**QUERIES-III**

1. SELECT pname FROM Programmer WHERE prof1 = 'c' ORDER BY salary desc limit 1;
2. SELECT pname FROM Programmer WHERE sex = 'f' and prof1 = 'cobol' ORDER BY salary desc limit 1;
3. SELECT dev\_in as language, pname FROM Programmer WHERE (prof1, salary) in (SELECT prof1, max(salary) FROM Programmer GROUP BY prof1) GROUP BY language;
4. SELECT pname FROM Programmer ORDER BY doj limit 1;
5. SELECT pname 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;

1. SELECT pname FROM Programmer WHERE prof1 = 'dbase' or prof2 = 'dbase' ORDER BY dob asc limit 1;
2. SELECT institute FROM Studies GROUP BY institute ORDER BY count(distinct pname) desc limit 1;
3. SELECT pname FROM Studies WHERE institute = (

SELECT institute FROM Studies GROUP BY institute ORDER BY count(distinct pname) desc limit 1) GROUP BY pname ORDER BY dob asc limit 1;

1. SELECT pname 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);

1. SELECT course FROM Studies GROUP BY course ORDER BY max(coursefee) desc limit 1;
2. SELECT course FROM Studies GROUP BY course ORDER BY count(\*) desc limit 1;
3. SELECT institute, course FROM Studies WHERE coursefee < (SELECT avg(coursefee) FROM Studies);
4. SELECT institute FROM Studies WHERE coursefee = (SELECT max(coursefee) FROM Studies);
5. SELECT course FROM Studies GROUP BY course having count(distinct pname) < (SELECT avg(student\_count) FROM (SELECT count(distinct pname) as student\_count FROM Studies GROUP BY course) as avg\_student\_count);
6. SELECT institute FROM Studies WHERE course = (SELECT course FROM Studies GROUP BY course ORDER BY max(coursefee) desc limit 1);
7. SELECT course FROM Studies WHERE coursefee between (SELECT avg(coursefee) - 1000 FROM Studies) and (SELECT avg(coursefee) + 1000 FROM Studies);
8. SELECT title FROM Software WHERE dcost = (SELECT max(dcost) FROM Software);
9. SELECT title FROM Software WHERE scost = (SELECT min(scost) FROM Software);
10. SELECT pname FROM Software WHERE sold = (SELECT min(sold) FROM Software);
11. SELECT dev\_in FROM Software WHERE scost = (SELECT max(scost) FROM Software);
12. SELECT sold FROM Software WHERE abs(scost - dcost) = ( SELECT min(abs(scost - dcost)) FROM Software);
13. SELECT title FROM Software WHERE dev\_in = 'pascal' ORDER BY scost desc limit 1;
14. SELECT dev\_in FROM Software GROUP BY dev\_in ORDER BY count(\*) desc limit 1;
15. SELECT pname FROM Software GROUP BY pname ORDER BY count(\*) desc limit 1;
16. SELECT pname FROM Software WHERE scost = (SELECT max(scost) FROM Software);
17. SELECT title FROM Software WHERE sold < (SELECT avg(sold) FROM Software);
18. SELECT pname FROM Programmer WHERE sex = 'f' and salary > ( SELECT max(salary) FROM Programmer WHERE sex = 'm');
19. SELECT prof1 as language FROM Programmer GROUP BY prof1 ORDER BY count(\*) desc limit 1;
20. SELECT pname FROM Software GROUP BY pname having sum(scost) > 2 \* sum(dcost);
21. SELECT pname, min(title) as cheapest\_package, dev\_in as language FROM Software GROUP BY pname, dev\_in;
22. SELECT pname FROM Programmer WHERE sex = 'm' and dob = ( SELECT min(dob) FROM Programmer WHERE sex = 'm' and year(dob) = 1965)
23. SELECT pname, (SELECT dev\_in FROM Software WHERE p.pname = Software.pname and scost = (SELECT max(scost) FROM Software WHERE pname = p.pname)) as highest\_selling\_language, (SELECT dev\_in FROM Software WHERE p.pname = Software.pname and scost = (SELECT min(scost) FROM Software WHERE pname = p.pname)) as lowest\_selling\_language FROM Programmer p;
24. SELECT pname FROM Programmer WHERE sex = 'f' and year(doj) = 1992 ORDER BY dob asc limit 1;
25. 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;
26. 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;
27. SELECT prof1 as language FROM Programmer GROUP BY prof1 ORDER BY count(\*) desc limit 1;
28. SELECT pname 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 pname in (SELECT pname FROM Programmer WHERE sex = 'm' and salary > 3000);
3. SELECT \*FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'f') and dev\_in = 'pascal';
4. SELECT \*FROM Programmer WHERE year(doj) < 1990;
5. SELECT \*FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'f' and institute = 'pragathi') and dev\_in = 'c';
6. SELECT pname, institute, count(\*) as num\_packages, sum(sold) as total\_copies\_sold, sum(scost \* sold) as sales\_value FROM Software s join Programmer p on s.pname = p.pname GROUP BY pname, institute;
7. SELECT \*FROM Software WHERE dev\_in = 'dbase' and pname in (SELECT pname FROM Programmer WHERE sex = 'm' and institute = (SELECT institute FROM Programmer GROUP BY institute ORDER BY count(\*) desc limit 1));
8. SELECT \*FROM Software WHERE pname in (SELECT pname 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 pname in (SELECT pname FROM Programmer WHERE sex = 'm' and institute = 'sabhari');
12. SELECT pname FROM Programmer WHERE pname not in (SELECT distinct pname FROM Software);
13. SELECT sum(scost) as total\_cost FROM Software WHERE pname in ( SELECT name FROM Programmer WHERE institute = 'apple');
14. SELECT pname FROM Programmer GROUP BY pname, doj having count(\*) > 1;
15. SELECT pname FROM Programmer GROUP BY prof2 having count(\*) > 1;
16. SELECT institute, sum(scost \* sold) as total\_sales\_value FROM Software sjoin Programmer p on s.pname = p.pname GROUP BY institute;
17. SELECT institute FROM Programmer WHERE pname in (SELECT pname 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.pname, p.salary, s.title, s.scost FROM Programmer p, Software s WHERE p.pname = s.pname and s.scost = (SELECT max(scost) FROM Software);
20. SELECT pname, salary / coursefee as months\_to\_recover FROM Programmer, Studies WHERE Programmer.pname = Studies.pname;
21. SELECT title FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE datediff(now(), doj) < 3\*365) ORDER BY scost desc limit 1;
22. SELECT avg(salary) as average\_salary FROM Programmer WHERE pname in ( SELECT pname FROM Software GROUP BY pname having sum(scost \* sold) > 50000);
23. SELECT count(\*) as num\_packages FROM Software WHERE pname in (SELECT pname FROM Studies WHERE coursefee = (SELECT min(coursefee)FROM Studies));
24. SELECT count(\*) as num\_packages, institute FROM Software, Studies WHERE Software.pname = Studies.pname and scost = (SELECT min(scost) FROM Software)GROUP BY institute;
25. SELECT count(\*) as num\_packages FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'f' and salary > (SELECT max(salary) FROM Programmer WHERE sex = 'm' ));
26. SELECT count(\*) as num\_packages FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE institute = 'bdps' ORDER BY datediff(now(), doj) desc limit 1);
27. SELECT distinct p.pname, case when s.pname is not null then s.institute else 'n/a' end as institute FROM Programmer p, Software s WHERE p.pname = s.pname or s.pname is null;
28. SELECT prof1, count(distinct pname) as num\_Programmers, count(\*) as num\_packages FROM Programmer GROUP BY prof1;
29. SELECT pname, count(\*) as num\_packages FROM Software GROUP BY pname;
30. SELECT \*FROM Programmer WHERE pname in (SELECT pname FROM Studies WHERE institute = 's.s.i.l.');