NAME: NISHANTH FRANCIS J

ASSIGNMENT ON SQL

```
CREATE DATABASE nishanth;

USE nishanth;

    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

        ("naveen", '2000-04-30', '2024-04-11', 'm', 'pascal', ' basic', 25000),

        ("ramesh", '2001-01-12', '2023-02-26', 'm', 'cobol', 'dbase', 30000),

        ("vijay", '2003-10-30', '2024-01-02', 'm', 'dcs', 'pascal', 28000);
```

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

("naveen", "bookmyshow", "pascal", 1000.0, 6000.0, 20),

("vijay", "ticketnew", "c", 9000.0, 2000.0, 10),

("vijay", "bustrack", "pascal", 700.0, 1500.99, 30),

("ramesh", "train reserve", "cobol", 900.0, 4500.0, 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

51. SELECT count(title) FROM Software GROUP BY dev_in;
52. SELECT ppname, count(*) as number_of_packages FROM Software GROUP BY ppname;
53. SELECT sex, count(*) as number_of_Programmers FROM Programmer GROUP BY sex;
54. SELECT dev_in as language, max(dcost) as costliest_package, max(scost) as highest_selling FROM Software GROUP BY dev_in;
55. SELECT year(dob) as birth_year, count(*) as number_of_people FROM Programmer GROUP BY year(dob);
56. SELECT year(doj) as join_year, count(*) as number_of_people FROM Programmer GROUP BY year(doj);
57. SELECT month(dob) as birth_month, count(*) as number_of_people FROM Programmer GROUP BY month(dob);

58. SELECT month(doj) as join_month, count(*) as number_of_people FROM Programmer GROUP BY month(doj);
59. SELECT dev_in as language, prof1, count(*) as count_of_prof1 FROM Software GROUP BY dev_in, prof1;
60. SELECT dev_in as language, prof2, count(*) as count_of_prof2 FROM Software GROUP BY dev_in, prof2;

61. 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;

62. SELECT institute, count(*) as number_of_people FROM Studies GROUP BY institute;
63. SELECT course, count(*) as number_of_people FROM Studies GROUP BY course;
64. SELECT dev_in as language, sum(dcost) as total_development_cost FROM Software GROUP BY dev_in;

65. SELECT dev_in as language, sum(scost) as total_selling_cost FROM Software GROUP BY dev_in;
66. SELECT pname, sum(dcost) as total_development_cost FROM Software GROUP BY pname;
67. SELECT pname, sum(scost * sold) as total_sales_value FROM Software GROUP BY pname;
68. SELECT pname, count(*) as number_of_packages_developed FROM Software GROUP BY pname;
69. SELECT pname, dev_in as language, sum(scost * sold) as total_sales_cost FROM Software GROUP BY pname, dev_in;
70. SELECT pname, max(title) as costliest_package,min(title) as cheapest_package FROM Software GROUP BY pname;

71. 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;

72. SELECT institute,count(distinct course) as number_of_courses, avg(coursefee) as average_cost_per_course FROM Studies GROUP BY institute;

73. SELECT institute,count(distinct pname) as number_of_students FROM StudiesGROUP BY institute;
74. SELECT distinct pname, sex FROM Programmer;
75. SELECT pname as Programmer_name,(SELECT title FROM Software WHERE pname = p.pname) as package_name FROM Programmer p;
76. SELECT dev_in as language, count(*) as number_of_packages FROM Software GROUP BY dev_in;
77. SELECT dev_in as language, count(*) as number_of_packages FROM Software WHERE dcost < 1000 GROUP BY dev_in;
78. SELECT dev_in as language, avg(scost - dcost) as average_difference FROM Software GROUP BY dev_in;
79. 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;

80. SELECT max(salary) as highest_salary,
    min(salary) as lowest_salary,
    avg(salary) as average_salary
    FROM Programmer WHERE salary > 2000;

QUERIES-III

81. SELECT pname FROM Programmer WHERE prof1 = 'c' ORDER BY salary desc limit 1;
82. SELECT pname FROM Programmer WHERE sex = 'f' and prof1 = 'cobol' ORDER BY salary desc limit 1;
83. SELECT dev_in as language, pname FROM Programmer WHERE (prof1, salary) in (SELECT prof1, max(salary) FROM Programmer GROUP BY prof1) GROUP BY language;
84. SELECT pname FROM Programmer ORDER BY doj limit 1;
85. SELECT pname FROM Programmer ORDER BY doj desc limit 1;
86. 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;
87. SELECT pname FROM Programmer WHERE prof1 = 'dbase' or prof2 = 'dbase' ORDER BY dob asc limit 1;

88. SELECT institute FROM Studies GROUP BY institute ORDER BY count(distinct pname) desc limit 1;
89. 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;
90. 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);
91. SELECT course FROM Studies GROUP BY course ORDER BY max(coursefee) desc limit 1;
92. SELECT course FROM Studies GROUP BY course ORDER BY count(*) desc limit 1;
93. SELECT institute, course FROM Studies WHERE coursefee < (SELECT avg(coursefee) FROM Studies);
94. SELECT institute FROM Studies WHERE coursefee = (SELECT max(coursefee) FROM Studies);
95. 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);

96. SELECT institute FROM Studies WHERE course = (SELECT course FROM Studies GROUP BY course ORDER BY max(coursefee) desc limit 1);
97. SELECT course FROM Studies WHERE coursefee between (SELECT avg(coursefee) - 1000 FROM Studies) and (SELECT avg(coursefee) + 1000 FROM Studies);
98. SELECT title FROM Software WHERE dcost = (SELECT max(dcost) FROM Software);
99. SELECT title FROM Software WHERE scost = (SELECT min(scost) FROM Software);
100. SELECT pname FROM Software WHERE sold = (SELECT min(sold) FROM Software);
101. SELECT dev_in FROM Software WHERE scost = (SELECT max(scost) FROM Software);
102. SELECT sold FROM Software WHERE abs(scost - dcost) = (SELECT min(abs(scost - dcost)) FROM Software);
103. SELECT title FROM Software WHERE dev_in = 'pascal' ORDER BY scost desc limit 1;
104. SELECT dev_in FROM Software GROUP BY dev_in ORDER BY count(*) desc limit 1;
105. SELECT pname FROM Software GROUP BY pname ORDER BY count(*) desc limit 1;

106. SELECT pname FROM Software WHERE scost = (SELECT max(scost) FROM Software);
107. SELECT title FROM Software WHERE sold < (SELECT avg(sold) FROM Software);
108. SELECT pname FROM Programmer WHERE sex = 'f' and salary > (SELECT max(salary) FROM Programmer WHERE sex = 'm');
109. SELECT prof1 as language FROM Programmer GROUP BY prof1 ORDER BY count(*) desc limit 1;
110. SELECT pname FROM Software GROUP BY pname having sum(scost) > 2 * sum(dcost);
111. SELECT pname, min(title) as cheapest_package, dev_in as language FROM Software GROUP BY pname, dev_in;
112. SELECT pname FROM Programmer WHERE sex = 'm' and dob = (SELECT min(dob) FROM Programmer WHERE sex = 'm' and year(dob) = 1965)
113. 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;

114. SELECT pname FROM Programmer WHERE sex = 'f' and year(doj) = 1992 ORDER BY dob asc limit 1;
115. 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;
116. 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;
117. SELECT prof1 as language FROM Programmer GROUP BY prof1 ORDER BY count(*) desc limit 1;
118. SELECT pname FROM Programmer WHERE sex = 'm' and salary < (SELECT avg(salary) FROM Programmer WHERE sex = 'f');

QUERIES-IV

119. SELECT *FROM Programmer WHERE salary in (SELECT salary FROM Programmer GROUP BY salary having count(*) > 1);
120. SELECT *FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'm' and salary > 3000);
121. SELECT *FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'f') and dev_in = 'pascal';
122. SELECT *FROM Programmer WHERE year(doj) < 1990;
123. SELECT *FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'f' and institute = 'pragathi') and dev_in = 'c';
124. 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;
125. 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));
126. SELECT *FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE (sex = 'm' and year(dob) < 1965) or (sex = 'f' and year(dob) > 1975));

127. SELECT *FROM Software WHERE dev_in not in (SELECT prof1 FROM Programmer);
128. SELECT *FROM Software WHERE dev_in not in (SELECT prof1 FROM Programmer union SELECT prof2 FROM Programmer);
129. SELECT *FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE sex = 'm' and institute = 'sabhari');
130. SELECT pname FROM Programmer WHERE pname not in (SELECT distinct pname FROM Software);
131. SELECT sum(scost) as total_cost FROM Software WHERE pname in (SELECT name FROM Programmer WHERE institute = 'apple');
132. SELECT pname FROM Programmer GROUP BY pname, doj having count(*) > 1;
133. SELECT pname FROM Programmer GROUP BY prof2 having count(*) > 1;
134. SELECT institute, sum(scost * sold) as total_sales_value FROM Software sjoin Programmer p on s.pname = p.pname GROUP BY institute;
135. SELECT institute FROM Programmer WHERE pname in (SELECT pname FROM Software WHERE scost = (SELECT max(scost) FROM Software));
136. 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);

137. 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);
138. SELECT pname, salary / coursefee as months_to_recover FROM Programmer, Studies WHERE Programmer.pname = Studies.pname;
139. SELECT title FROM Software WHERE pname in (SELECT pname FROM Programmer WHERE datediff(now(), doj) < 3*365) ORDER BY scost desc limit 1;
140. SELECT avg(salary) as average_salary FROM Programmer WHERE pname in (SELECT pname FROM Software GROUP BY pname having sum(scost * sold) > 50000);
141. SELECT count(*) as num_packages FROM Software WHERE pname in (SELECT pname FROM Studies WHERE coursefee = (SELECT min(coursefee)FROM Studies));
142. SELECT count(*) as num_packages, institute FROM Software, Studies WHERE Software.pname = Studies.pname and scost = (SELECT min(scost) FROM Software)GROUP BY institute;

143. 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'));
144. 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);
145. 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;
146. SELECT prof1, count(distinct pname) as num_Programmers, count(*) as num_packages FROM Programmer GROUP BY prof1;
147. SELECT pname, count(*) as num_packages FROM Software GROUP BY pname;
148. SELECT *FROM Programmer WHERE pname in (SELECT pname FROM Studies WHERE institute = 's.s.i.l.');