**Assignment – SQL Queries**

**Problem Statement:**

Consider yourself to be Sam and you have been given the below tasks to complete using the Table – **STUDIES, SOFTWARE & PROGRAMMER**.

**Tasks to be performed:**

1. Find out the selling cost AVG for packages developed in Pascal.

**SELECT AVG(SCOST) AS Avg\_Selling\_Cost FROM software**

**WHERE DEVELOPIN='PASCAL'**

1. Display Names, Ages of all Programmers.

**SELECT PNAME,datediff( YY, dob, getdate()) as age from programmer**

1. Display the Names of those who have done the DAP Course.

**SELECT PNAME FROM studies where COURSE='dap'**

1. Display the Names and Date of Births of all Programmers Born in January.

**SELECT PNAME,month(dob) as Month\_of\_Birth from programmer where month(dob)=1**

1. What is the Highest Number of copies sold by a Package?

**SELECT MAX(SOLD) FROM software**

1. Display lowest course Fee.

**SELECT Min(COURSE\_FEE) FROM studies**

1. How many programmers done the PGDCA Course?

**SELECT count(COURSE) FROM studies where COURSE='PGDCA'**

1. How much revenue has been earned thru sales of Packages Developed in C.

**SELECT sum(SCOST\*sold) as Total\_revenue FROM software where DEVELOPIN='c'**

1. Display the Details of the Software Developed by Ramesh.

SELECT **\* FROM software where PNAME='ramesh'**

1. How many Programmers Studied at Sabhari?

**SELECT count(pname) FROM studies where INSTITUTE='Sabhari'**

1. Display details of Packages whose sales crossed the 2000 Mark.

**select \* from software where (scost\*sold)>2000**

1. Display the Details of Packages for which Development Cost have been recovered.

**select \* from software where dcost<(scost\*sold)**

1. What is the cost of the costliest software development in Basic?

**select max(dcost) from software where developin='basic'**

1. How many Packages Developed in DBASE?

**Select count(TITLE) as No\_of\_packages\_in\_DBASE from software where developin='dbase'**

1. How many programmers studied in Pragathi?

Select count(INSTITUTE) AS Pragathi\_programmers from studies where INSTITUTE='Pragathi'

1. How many Programmers Paid 5000 to 10000 for their course?

Select count(PNAME) AS No\_of\_programmers from studies where

COURSE\_FEE>=5000 and COURSE\_FEE<=10000

1. What is AVG Course Fee

select avg(course\_fee) as avg\_fee from studies

1. Display the details of the Programmers Knowing C.

select \* from programmer where prof1='c' or prof2='c'

1. How many Programmers know either COBOL or PASCAL.

select count(pname) as No\_Programmers from programmer where prof1='COBOL' or

prof2='PASCAL' or PROF2='COBOL' or PROF1='PASCAL'

1. How many Programmers Don’t know PASCAL and C

SELECT count(PNAME)AS No\_prog from programmer where prof1!='pascal' and PROF1!='c'

and prof2!='pascal' and prof2!='c'

1. How old is the Oldest Male Programmer.

SELECT top(1)PNAME,datediff( YY, dob, getdate()) as age from programmer where gender='m' order by age desc

1. What is the AVG age of Female Programmers?

select avg(datediff( YY, dob, getdate()) ) Avg\_Female\_Programmer from programmer where gender='f'

23. Calculate the Experience in Years for each Programmer and Display with their

names in Descending order.

Select pname,datediff( YY, doj, getdate()) as Years\_Experience from programmer

order by Years\_Experience desc

24. Who are the Programmers who celebrate their Birthday’s During the Current

Month?

Select pname from programmer

where month(dob)=month(getdate())

25. How many Female Programmers are there?

Select count(PNAME) AS Female\_programmers from programmer

where gender='f'

26. What are the Languages studied by Male Programmers.

Select distinct prof1 as Languages from programmer

union

Select distinct PROF2 from programmer

where gender='m'

27. What is the AVG Salary?

select avg(salary) as Avg\_Salary from programmer

28. How many people draw salary 2000 to 4000?

select count(pname) from programmer where salary>= 2000 and salary<=4000

29. Display the details of those who don’t know Clipper, COBOL or PASCAL.

SELECT \* FROM programmer WHERE PROF1 NOT IN ('Clipper', 'COBOL', 'PASCAL')

AND PROF2 NOT IN ('Clipper', 'COBOL', 'PASCAL')

30. Display the Cost of Package Developed By each Programmer.

SELECT pname,sum(DCOST) FROM software

group by PNAME

31. Display the sales values of the Packages Developed by the each Programmer.

SELECT pname,sum(SCOST\*SOLD) FROM software

group by PNAME

32. Display the Number of Packages sold by Each Programmer.

SELECT pname,count(title) as no\_of\_packages FROM software

group by PNAME

33. Display the sales cost of the packages Developed by each Programmer Language wise.

SELECT developin,sum(scost) FROM software

group by DEVELOPIN

34. Display each language name with AVG Development Cost, AVG Selling Cost and

AVG Price per Copy.

SELECT DEVELOPIN, AVG(SCOST), AVG(DCOST), AVG(SOLD) FROM software

GROUP BY DEVELOPIN

35. Display each programmer’s name, costliest and cheapest Packages Developed by him or

her.

SELECT pname,max(dcost) as costliest\_Packages,min(dcost)

as cheapest\_Packages FROM software

group by PNAME

36. Display each institute name with number of Courses, Average Cost per Course.

SELECT institute,count(course) No\_Courses ,avg(course\_fee) as Avg\_Fee

FROM studies group by INSTITUTE

37. Display each institute Name with Number of Students.

select Institute,count(pname)as no\_students from studies

group by INSTITUTE

38. Display Names of Male and Female Programmers. Gender also.

select PNAME,Gender from programmer

39. Display the Name of Programmers and Their Packages.

SELECT PROGRAMMER.PNAME,COUNT(TITLE) AS NO\_OF\_PACKAGES FROM PROGRAMMER INNER JOIN software ON programmer.PNAME = software.PNAME GROUP BY PROGRAMMER.PNAME

40. Display the Number of Packages in Each Language Except C and C++.

select title,count(title) from software where DEVELOPIN!='c' and developin!='c++'

group by TITLE

41. Display the Number of Packages in Each Language for which Development Cost is

less than 1000.

select developin,count(title) as No\_packages from software where dcost<1000

group by DEVELOPIN

42. Display AVG Difference between SCOST, DCOST for Each Package.

select title, avg(scost-dcost) as Avg\_packages from software

group by TITLE

43 Display the total SCOST, DCOST and amount to Be Recovered for each Programmer for Those Whose

Cost has not yet been Recovered

select PNAME,sum(scost) as scost, sum(dcost) as dcost,sum((scost-dcost))

as Recovery\_Amount from software group by PNAME

44. Display Highest, Lowest and Average Salaries for those earning more than 2000.

select max(salary) as Max\_salary, min(salary) as min\_salary,avg(salary)

as avg\_salary from programmer where salary>2000

45. Who is the Highest Paid C Programmers?

SELECT top(1) PNAME FROM programmer WHERE PROF1 = 'C' OR PROF2 = 'C' ORDER BY SALARY DESC

46. Who is the Highest Paid Female COBOL Programmer?

SELECT top(1) PNAME FROM programmer WHERE PROF1 = 'Cobol' OR PROF2 = 'Cobol' ORDER BY SALARY DESC

47. Display the names of the highest paid programmers for each Language.

WITH CTE AS(Select Distinct pname, Salary, Prof1 Language from Programmer

UNION

Select Distinct pname, Salary, Prof2 Prof from Programmer)

Select p1.pname, p1.Language, p1.Salary

from CTE p1 LEFT JOIN CTE p2 ON p1.Language = p2.Language

AND p1.Salary < p2.Salary where p2.pname IS NULL

48. Who is the least experienced Programmer.

SELECT top(1) PNAME FROM programmer

order by doj desc

49. Who is the most experienced male programmer knowing PASCAL.

SELECT top(1) PNAME FROM programmer where prof1='cobol' or prof2='cobol'

order by doj asc

50. Which Language is known by only one Programmer?

Select Prof1 Languages from Programmer group by Prof1 having Prof1 not in

(Select Prof2 from Programmer) and count(Prof1)=1

union

Select Prof2 from Programmer group by Prof2 having Prof2 not in

(Select Prof1 from Programmer) and count(Prof2)=1

51. Who is the Above Programmer Referred in 50?

SELECT PNAME FROM programmer

where datediff( YY, dob, getdate()) >=50 and datediff( YY, dob, getdate()) <=60

52. Who is the Youngest Programmer knowing DBASE?

SELECT top(1)PNAME FROM programmer

where prof1='dbase' or prof2='dbase'

order by dob desc

53. Which Female Programmer earning more than 3000 does not know C, C++,

ORACLE or DBASE?

SELECT PNAME FROM programmer WHERE GENDER = 'F' AND SALARY > 3000

AND NOT (PROF1 = 'C' OR PROF1 = 'C++' OR PROF1 = 'ORACLE' OR PROF1 = 'DBASE'

OR PROF2 = 'C' OR PROF2 = 'C++' OR PROF2 = 'ORACLE' OR PROF2 = 'DBASE')

54. Which Institute has most number of Students?

SELECT top(1)INSTITUTE FROM studies

group by INSTITUTE

order by count(INSTITUTE) desc

55. What is the Costliest course?

SELECT top(1)COURSE FROM studies

order by COURSE\_FEE desc

56. Which course has been done by the most of the Students?

SELECT top(1)COURSE FROM studies

group by COURSE

order by count(COURSE) desc

57. Which Institute conducts costliest course.

SELECT top(1)INSTITUTE FROM studies

order by COURSE\_FEE desc

58. Display the name of the Institute and Course, which has below AVG course fee.

SELECT institute,course FROM studies

where COURSE\_FEE < (SELECT AVG(COURSE\_FEE) FROM studies)

59. Display the names of the courses whose fees are within 1000 (+ or -) of the

Average Fee,

SELECT course,COURSE\_FEE FROM studies

where COURSE\_FEE < (SELECT AVG(COURSE\_FEE)+1000 FROM studies)

and COURSE\_FEE > (SELECT AVG(COURSE\_FEE)-1000 FROM studies)

60. Which package has the Highest Development cost?

SELECT top(1) title FROM software

order by dcost desc

61. Which course has below AVG number of Students?

Select COURSE,count(pname) as no\_student from Studies

Group by Course having count(PNAME)<(Select avg(count(pname))

from Studies Group by count(pname))

62. Which Package has the lowest selling cost?

SELECT title FROM software

where SCOST=(select min(scost) from software)

63. Who Developed the Package that has sold the least number of copies?

SELECT top(1)PNAME FROM software

order by SOLD asc

64. Which language has used to develop the package, which has the highest

sales amount?

SELECT DEVELOPIN FROM software

where (scost\*sold)=(select max(scost\*sold) from software)

65. How many copies of package that has the least difference between

development and selling cost where sold.

SELECT SOLD FROM software

where (scost-DCOST)=(select max(scost-DCOST) from software )

66. Which is the costliest package developed in PASCAL.

SELECT top(1) TITLE FROM software

where developin='pascal'

order by DCOST desc

67. Which language was used to develop the most number of Packages.

SELECT top(1)DEVELOPIN, COUNT(\*) AS COUNT FROM software GROUP BY DEVELOPIN ORDER BY COUNT DESC

68. Which programmer has developed the highest number of Packages?

SELECT top(1)PNAME FROM software GROUP BY PNAME ORDER BY COUNT(PNAME) desc

69. Who is the Author of the Costliest Package?

SELECT top(1) PNAME FROM software ORDER BY DCOST desc

70. Display the names of the packages, which have sold less than the AVG

number of copies.

select title from software where sold <

(select avg(sold) from software )

71. Who are the authors of the Packages, which have recovered more than double the

Development cost?

select pname,title from software where

((scost\*sold)>dcost\*2)

72. Display the programmer Name and the cheapest packages developed by them in

each language.

select pname,title from software where

dcost in ( select min(dcost) from software group by DEVELOPIN)

73. Display the language used by each programmer to develop the Highest

Selling and Lowest-selling package.

Select pname,developin from Software where

sold in(Select max(SOLD)from Software Group by PNAME)

Union

Select pname,developin from Software where

sold in(Select min(Sold)from Software Group by PNAME)

74. Who is the youngest male Programmer born in 1965?

select top(1) pname from programmer

where gender='m' and year(dob)= 1965

order by dob asc

75. Who is the oldest Female Programmer who joined in 1992?

select top(1) pname from programmer

where gender='f' and year(doj)= 1992

order by dob asc

76. In which year was the most number of Programmers born.

select top(1)year(dob) from programmer

group by year(dob)

order by count(year(dob)) desc

77. In which month did most number of programmers join?

select top(1)month(dob) as Month\_of\_joining from programmer

group by month(dob)

order by count(month(dob)) desc

78. In which language are most of the programmer’s proficient.

select top (1)prof1 from programmer

group by prof1

order by count(PROF1) desc

79. Who are the male programmers earning below the AVG salary of

Female Programmers?

SELECT PNAME,SALARY FROM programmer WHERE GENDER = 'M' AND SALARY < (SELECT AVG(SALARY)

FROM programmer WHERE GENDER = 'F')

80. Who are the Female Programmers earning more than the Highest Paid?

select PNAME from programmer

where gender='f' and salary=(select max(salary) from programmer)

81. Which language has been stated as the proficiency by most of the Programmers?

select top (1)prof1 from programmer

group by prof1

order by count(PROF1) desc

82. Display the details of those who are drawing the same salary.

SELECT pname,SALARY

FROM programmer

WHERE Salary IN (

SELECT Salary

FROM programmer

GROUP BY Salary

HAVING COUNT(\*) > 1

)

83. Display the details of the Software Developed by the Male Programmers Earning

More than 3000/-.

SELECT S.\* FROM programmer P, software S

WHERE P.PNAME = S.PNAME AND GENDER = 'M' AND SALARY > 3000

84. Display the details of the packages developed in Pascal by the Female

Programmers.

SELECT S.\* FROM programmer P, software S

WHERE P.PNAME = S.PNAME AND GENDER = 'F' AND DEVELOPIN='pascal'

85. Display the details of the Programmers who joined before 1990.

select \* from programmer

where year(DOJ)< 1990

86. Display the details of the Software Developed in C, By female programmers of

Pragathi.

SELECT TITLE FROM software S, studies ST,PROGRAMMER P

WHERE S.PNAME = ST.PNAME AND S.PNAME=P.PNAME AND INSTITUTE='Pragathi' AND GENDER='F'

AND DEVELOPIN='C'

87. Display the number of packages, No. of Copies Sold and sales value of

each programmer institute wise.

SELECT INSTITUTE, COUNT(TITLE), SUM(SOLD), SUM(SCOST\*SOLD)

FROM software, studies

WHERE software.PNAME = studies.PNAME

GROUP BY INSTITUTE

88. Display the details of the software developed in DBASE by Male Programmers, who

belong to the institute in which most number of Programmers studied.

SELECT TITLE FROM software

WHERE PNAME IN (SELECT PNAME FROM programmer WHERE GENDER = 'M')

AND PNAME IN (SELECT PNAME FROM studies WHERE INSTITUTE IN

(SELECT INSTITUTE FROM studies GROUP BY INSTITUTE HAVING COUNT(PNAME) =

(select top(1) count(pname) from studies GROUP BY INSTITUTE

order by count(pname)desc))) and DEVELOPIN='dbase'

89. Display the details of the software Developed by the male programmers Born

before 1965 and female programmers born after 1975.

SELECT \* FROM software,programmer

where software.PNAME=programmer.PNAME

AND software.PNAME IN (SELECT PNAME FROM programmer WHERE GENDER = 'M' and year(dob)<1965)

AND programmer.PNAME IN (SELECT PNAME FROM programmer WHERE GENDER = 'F' and year(dob)>1975)

90. Display the details of the software that has developed in the language which is

neither the first nor the second proficiency of the programmers.

Select s.\* from Programmer p,Software s

where s.PNAME=p.PNAME and (DEVELOPIN<>Prof1 and DEVELOPIN<>Prof2)

91. Display the details of the software developed by the male students of Sabhari.

SELECT TITLE FROM software S, studies ST,PROGRAMMER P

WHERE S.PNAME = ST.PNAME AND S.PNAME=P.PNAME AND INSTITUTE='Sabhari' AND GENDER='M'

92. Display the names of the programmers who have not developed any packages.

SELECT PNAME FROM programmer WHERE PNAME NOT IN (SELECT PNAME FROM software)

93. What is the total cost of the Software developed by the programmers of Apple?

SELECT SUM(DCOST) AS Tota\_cost FROM software S, studies ST,PROGRAMMER P

WHERE S.PNAME = ST.PNAME AND S.PNAME=P.PNAME AND INSTITUTE='APPLE'

94. Who are the programmers who joined on the same day?

SELECT PNAME,DOJ FROM programmer

WHERE DOJ IN (

SELECT DOJ

FROM programmer

GROUP BY DOJ

HAVING COUNT(\*) > 1

)

95. Who are the programmers who have the same Prof2?

SELECT PNAME,PROF2 FROM programmer

WHERE PROF2 IN (

SELECT PROF2

FROM programmer

GROUP BY PROF2

HAVING COUNT(\*) > 1

)

96. Display the total sales value of the software, institute wise.

SELECT INSTITUTE,

SUM(SOLD\*SCOST) AS SALES\_VALUE FROM studies, software WHERE studies.PNAME = software.PNAME

GROUP BY INSTITUTE

97. In which institute does the person who developed the costliest package studied.

select institute from studies s,software so where s.pname=so.pname

and dcost=(select max(dcost) from software)

98. Which language listed in prof1, prof2 has not been used to develop any package.

Select Prof1 from Programmer where Prof1 not in

(select developin from software)

UNION

Select Prof2 from Programmer where Prof2 not in

(select developin from software)

99. How much does the person who developed the highest selling package earn and

what course did HE/SHE undergo.

select p.Salary,st.Course from Programmer p,Software s,Studies st

where p.pname=s.pname and s.PNAME=st.pname and

scost=(select max(SCost)from Software)

100. What is the AVG salary for those whose software sales is more than 50,000/-.

SELECT AVG(SALARY) FROM programmer WHERE PNAME IN (SELECT PNAME FROM software WHERE SCOST\*SOLD > 50000)

101. How many packages were developed by students, who studied in institute that

charge the lowest course fee?

SELECT count(TITLE)

FROM software, programmer, studies

WHERE software.PNAME = programmer.PNAME AND programmer.PNAME = studies.PNAME

and studies.INSTITUTE IN (select distinct INSTITUTE from studies where

COURSE\_FEE=(select min(course\_fee) from studies))

102. How many packages were developed by the person who developed the

cheapest package, where did HE/SHE study?

SELECT TITLE, software.PNAME, INSTITUTE

FROM software, programmer, studies

WHERE software.PNAME = programmer.PNAME AND programmer.PNAME = studies.PNAME

AND software.PNAME in (select pname from software where dcost=(select min(dcost) from software))

103. How many packages were developed by the female programmers earning more

than the highest paid male programmer?

SELECT count(TITLE)

FROM software, programmer

WHERE software.PNAME = programmer.PNAME and software.pname in

(select pname from programmer where salary>

(select max( salary) from programmer where gender='m') and gender='f')

104. How many packages are developed by the most experienced programmer form

BDPS.

SELECT TITLE

FROM software, programmer, studies

WHERE software.PNAME = programmer.PNAME AND software.PNAME = studies.PNAME

and studies.INSTITUTE='bdps'

and DOJ =(select top(1)doj from programmer order by doj asc)

105. List the programmers (form the software table) and the institutes they studied.

SELECT distinct software.PNAME, studies.INSTITUTE

FROM software, studies

WHERE software.PNAME = studies.PNAME

106. List each PROF with the number of Programmers having that PROF and the

number of the packages in that PROF.

Select Developin,count(PNAME) as No\_programmer,count(title) as No\_Packages

from Software where developin in

(select Prof1 from Programmer) Group by DEVELOPIN

107. List the programmer names (from the programmer table) and No. Of Packages

each has developed.

Select s.pname, count(developin) as No\_Packages from Programmer p,Software s

where p.pname=s.PNAME

Group by s.PNAME