

TITLE: ASSIGNMENT ON SQL

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QUERIES – I

1) Find out the SELLING COST AVERAGE for the packages developed in PASCAL?

`select avg(scost) from Software where dev_in = 'pascal';`

2) Display the names and ages of all programmers.

`select name, timestampdiff(year, dob, curdate()) as age from programmer;`

3) Display the names and ages of all the programmers who have undergone training in DCS course.

`select name , timestampdiff(year, dob, curdate()) as age from Programmer where name in (select name from Studies where course = 'dcs');`

4) What is the highest numbers of copies sold by a package?

`select max(sold) as highest_copies from Software;`

5) Display the names and date of birth of all the programmer born in JANUARY.

`select dob, name from programmer where extract(month from dob)=1;`

6) Display lowest course fee.

`select min(ccost) as Course_fee from Studies;`

7) How many programmer has done PGDCA course.

`select count(name) as Programmer_count from Studies where course='pgdca';`

8) How much revenue has been earned through sales of packages in C.

`select sum(scost*sold) from software where dev_in like 'basic';`

9) Display the details of software developed by Ramesh?

`select * from software where name = 'Ramesh';`

10) How many programmers studied at SABHARI.

`select count(name) from studies where splace='sabhari';`

11) Display the details of PACKAGES whose sales crossed the 20000 mark.

`select * from software where sold > 20000;`

12) Find out the number of copies which should be sold in order to recover the development cost of each package.

```
select name, round(dcost / scost) as copies_to_recovercost from Software;
```

13) What is the price of the costliest software developed in BASIC?

```
select max(scost) from software where dev_in='basic';
```

14) Display the details of packages for which development cost has been recovered.

```
select * from software where (scost*sold) >= dcost;
```

15) How many packages were developed in dbase?

```
select count(title) from software where dev_in='dbase';
```

16) How many programmers studies at paragathi?

```
select count(name) from Studies where splace='paragathi';
```

17) How many programmers paid 5000 to 10000 for their course?

```
select count(name) from studies where ccost>=5000 and ccost<=10000;
```

18) What is the average course fee?

```
select avg(ccost) as avg_cost from studies;
```

19) Display the details of programmers knowing c?

```
select * from Programmer where prof1='c' or prof2='c';
```

20) How many programmers know either Cobol or Pascal?

```
select count(name) from Programmer where prof1='cobol'or prof2='cobol' or  
prof1='pascal' or prof2='pascal';
```

21) How many programmers don't know Pascal & C?

```
select count(name) from Programmer where prof1 !='c'and prof2 !='c' and prof1 !='pascal'  
and prof2 !='pascal';
```

22) How old is the oldest male programmers?

```
select max(timestampdiff(year, dob, curdate())) as oldest_male from Programmer where  
sex = 'm';
```

23) What is the average age of female programmers?

```
select avg(timestampdiff(year, dob, curdate())) as average_age from Programmer where  
sex = 'f';
```

24) Calculate the experience in years for each programmers and display along with the names in descending order?

select name , timestampdiff(year, doj, curdate()) as experience from Programmer order by experience desc;

25) Who are the programmers who celebrate their birthday during the current month?

select name from programmer where extract(month from dob) = extract(month from sysdate());

26) How many female programmers are there?

select count(name) as female_programmer from Programmer where sex='f';

27) What are the languages known by the male programmers?

select name, prof1, prof2 from Programmer where sex='m';

28) What is the Average salary?

select avg(salary) from Programmer;

29) How many people draw 2000 to 4000?

select count(name) from Programmer where salary >= 2000 and salary <= 4000;

30) 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');

31) How many Female programmers knowing C are above 24 years of age?

select count(*) as female_programmers from Programmer where sex = 'f' and timestampdiff(year, dob, curdate()) > 24 and ('C' in (prof1, prof2));

32) Who are the programmers who will be celebrating their Birthday within a week?

select * from programmer where day(dob) between day(curdate()) and day(curdate() + interval 7 day) and month(dob) = month(curdate());

33) Display the details of those with less than a year's experience?

select * from programmer where floor((curdate() - doj)/365) < 1;

34) Display the details of those who will be completing 2 years of service this year?

select name from programmer where floor((curdate() - doj)/365) = 2;

35) Calculate the amount to be recovered for those packages whose development cost has not been recovered?

select (dcost-(scost*sold)), title from Software where (scost*sold)<dcost;

36) List the packages which have not been sold so far?

select title from software where sold=0;

37) Find out the cost of the software developed by Mary?

select title,scost from Software where name='Mary';

38) Display the institute's names from the studies table without duplicates?

select distinct splace from Studies;

39) How many different courses are mentioned in the studies table?

select distinct course from Studies;

40) Display the names of the programmers whose names contain 2 occurrences of the letter A?

select name from Programmer where name like '%A%A%';

41) Display the names of programmers whose names contain upto 5 characters?

select name from Programmer where length(name)=5;

42) How many female programmers knowing COBOL have more than 2 years experience?

select count(*) as female_programmers from programmer where sex='f' and timestampdiff(year, doj, curdate())>2 and ('cobol' in (prof1,prof2))

43) What is the length of the shortest name in the programmer table?

select min(length(name)) from Programmer;

44) What is the average development cost of a package developed in COBOL?

select avg(dcost) from software where dev_in='cobol';

45) Display the name, sex, dob (DD/MM/YY format), doj for all the programmers without using conversion function?

select name, sex, date_format(dob, '%d/%m/%y') as dob, date_format(doj, '%d/%m/%y') as doj from Programmer;

46) Who are the programmers who were born on the last day of the month?

select name from programmer where(last_day(dob)=day(dob));

47) What is the amount paid in salaries of the male programmers who do not know Cobol?

select salary from Programmer where sex='m' and prof1!='cobol' and prof2!='cobol';

48) Display the title, scost, dcost and difference between scost and dcost in descending order of difference?

```
select title, scost, dcost, dcost-scost as difference from software order by 4 desc;
```

49) Display the name, dob, doj of those month of birth and month of joining are same?

```
select name,dob,doj from programmer where extract(month from dob) = extract(month from doj);
```

50) Display the names of the packages whose names contain more than 1 word?

```
select title from software where title like '% %';
```

QUERIES - II

1) Display THE NUMBER OF packages developed in EACH language.

```
select dev_in as Language,count(title) as No_of_package from Software group by dev_in;
```

2) Display THE NUMBER OF packages developed by EACH person.

```
select dev_in as Language,count(title) as No_of_package from Software group by name;
```

3) Display THE NUMBER OF male and female programmer.

```
select sex, count(name) from Programmer group by sex;
```

4) Display THE COSTLIEST packages and HIGEST selling developed in EACH language.

```
select dev-in,max(scost),max(sold) from Software group by dev_in;
```

5) Display THE NUMBER OF people BORN in EACH YEAR.

```
select year(dob) as birth_year, count(*) as people from programmer group by year(dob) order by birth_year;
```

6) Display THE NUMBER OF people JOINED in EACH YEAR.

```
select year(doj) as joined_year, count(*) as people from programmer group by year(doj) order by joined_year;
```

7) Display THE NUMBER OF people BORN in EACH MONTH.

```
select month(dob) as birth_month, count(*) as people from programmer group by month(dob) order by birth_month;
```

8) Display THE NUMBER OF people JOINED in EACH MONTH.

```
select month(doj) as joined_month, count(*) as people from programmer group by month(doj) order by joined_month;
```

9) Display the language wise COUNTS of prof1.

```
select prof1, count(prof1) from programmer group by prof1;
```

10) Display the language wise COUNTS of prof2.

```
select prof2, count(prof2) from programmer group by prof2;
```

11) Display THE NUMBER OF people in EACH salary group.

```
select salary, count(name) from programmer group by salary;
```

12) Display THE NUMBER OF people who studied in EACH institute.

```
select splace, count(name) from studies group by splace;
```

13) Display THE NUMBER OF people who studied in EACH course.

```
select course, count(name) from studies group by course;
```

14) Display the TOTAL development COST of the packages developed in EACH language.

```
select dev_in, sum(dcost) as Total_cost from Software group by dev_in;
```

15) Display the selling cost of the package developed in EACH language.

```
select dev_in, scost from Software group by dev_in;
```

16) Display the cost of the package developed by EACH programmer.

```
select name, dcost from Software group by name;
```

17) Display the sales values of the package developed in EACH programmer.

```
select name, sum(scost*sold) from Software group by name;
```

18) Display the NUMBER of packages developed by EACH programmer.

```
select name, count(title) from Software group by name;
```

19) Display the sales COST of packages developed by EACH programmer language wise.

```
select dev_in, sum(scost) from software group by dev_in;
```

20) Display EACH programmers name, costliest package and cheapest packages developed by Him/Her.

```
select name, max(dcost), min(dcost) from Software group by name;
```

21) Display EACH language name with AVERAGE development cost, AVERAGE cost, selling cost and AVERAGE price per copy.

```
select dev_in, avg(dcost), avg(scost), scost from software group by dev_in;
```

22) Display EACH institute name with NUMBER of courses, AVERAGE cost per course.

select splace, count(course), avg(ccost) from studies group by splace;

23) Display EACH institute name with NUMBER of students.

select splace, count(name) as Student from studies group by splace;

24) Display names of male and female programmers.

select name,sex from programmer group by sex;

25) Display the programmer's name and their packages.

select name, title from software group by name;

26) Display the NUMBER of packages in EACH language.

select count(title),dev_in from software group by dev_in;

27) Display the NUMBER of packages in EACH language for which development cost is less than 1000.

select count(title),dev_in from software where dcost<1000 group by dev_in;

28) Display the AVERAGE difference BETWEEN scost and dcost for EACH language.

select dev_in, avg(dcost-scost) from software group by dev_in;

29) Display the TOTAL scost, dcsot and amount TOBE recovered for EACH programmer for whose dcost HAS NOT YET BEEN recovered.

select sum(scost),sum(dcost),sum(dcost-(scost*sold)) from software group by name
having sum(scost*sold)<sum(dcost);

30) Display highest, lowest and average salaries for THOSE earning MORE than 2000.

select max(salary),min(salary),avg(salary) from programmer where salary > 2000;

QUERIES - III

1) Who is the highest paid C programmer?

select name, max(salary) from programmer where prof1='c' or prof2='c'group by name;

2) Who is the highest paid female cobol programmer?

select name, max(salary) from programmer where (prof1='cobol' or prof2='cobol') and
sex='f';

3) Display the name of the HIGEST paid programmer for EACH language (prof1)

select name, max(salary),prof1 from programmer group by prof1;

4) Who is the LEAST experienced programmer?

select name from programmer order by doj limit 1;

5) Who is the MOST experienced programmer?

select name from programmer order by doj desc limit 1;

6) Which language is known by ONLY ONE programmer?

select language from (select prof1 as language from programmer union all select prof2 as language from programmer) as languageknown group by language having count(*)=1;

7) Who is the YONGEST programmer knowing DBASE?

select name from programmer where prof1='dbase' or prof2='dbase' order by dob asc limit 1;

8) Which institute has MOST NUMBER of students?

select course, count(*) as students from Studies group by course order by students desc limit 1;

9) Who is the above programmer?

select p.name as programmer_name from Programmer p inner join Studies s on p.name = s.name where s.splace = (select splace from Studies group by splace order by count(*) desc limit 1);

10) Which female programmer earns MORE than 3000/- but DOES NOT know C, C++, Oracle or Dbase?

select * from programmer where sex='f' and salary>3000 and (prof1 not in('c','c++','oracle','dbase') or prof2 not in('c','c++','oracle','dbase'));

11) Which is the COSTLIEST course?

select course, ccost from studies where ccost=(select max(ccost) from studies);

12) Which course has been done by MOST of the students?

select course, count(*) as students from Studies group by course order by students desc limit 1;

13) Display name of the institute and course Which has below AVERAGE course fee?

select splace, course from studies where ccost < (select avg(ccost) from studies);

14) Which institute conducts COSTLIEST course?

select splace, ccost from studies where ccost=(select max(ccost) from studies);

15) Which course has below AVERAGE number of students?

select course, count(*) as students from Studies group by course having count(*) < (select avg(students) from (select count(*) as students from Studies group by course) as avg_students);

16) Which institute conducts the above course?

select splace, course, count(*) as students from Studies group by splace, course having count(*) < (select avg(students) from (select count(*) as students from Studies group by course) as avg_students);

17) Display names of the course WHOSE fees are within 1000(+ or -) of the AVERAGE fee.

select course from studies where ccost<(select avg(ccost)+1000 from studies) and ccost>(select avg(ccost)-1000 from studies);

18) Which package has the HIGEST development cost?

select title, max(dcost) from software;

19) Which package has the LOWEST selling cost?

select title, min(scost) from software;

20) Who developed the package, which has sold the LEAST number of copies?

select name,sold from software where sold=(select min(sold) from software);

21) Which language was used to develop the package WHICH has the HIGEST sales amount?

select dev_in ,scost from software where scost=(select max(scost) from software);

22) How many copies of the package that has the LEAST DIFFERENCE between development and selling cost were sold?

select title, sold from software where (dcost-scost)=(select min(dcost-scost) from software);

23) Which is the COSTLIEAST package developed in PASCAL?

select title, dcost from software where dcost=(select max(dcost) from software where dev_in='pascal');

24) Which language was used to develop the MOST NUMBER of package?

select max(dev_in) from software group by dev_in;

25) Which programmer has developed the HIGEST NUMBER of package?

select max(name) from software;

26) Who is the author of the COSTLIEAST package?

select name,dcost from software where dcost=(select max(dcost) from software);

27) Display names of packages WHICH have been sold LESS THAN the AVERAGE number of copies?

```
select title from software where sold<(select avg(sold) from software);
```

28) Who are the female programmers earning MORE than the HIGEST paid male programmers?

```
select name from programmer where sex='f' and salary>(select max(salary) from programmer where sex='m');
```

29) Which language has been stated as prof1 by MOST of the programmers?

```
select prof1 from programmer group by prof1 having prof1=(select max(prof1) from programmer);
```

30) Who are the authors of packages, WHICH have recovered MORE THAN double the development cost?

```
select name from software where scost*sold>2*dcost;
```

31) Display programmer names and CHEAPEST package developed by them in EACH language?

```
select name,title from software where dcost=(select min(dcost) from software group by dev_in);
```

32) Who is the YOUNGEST male programmer born in 1965?

```
select name from Programmer where sex = 'm' and dob = (select min(dob) from Programmer where sex = 'm' and year(dob) = 1965);
```

33) Display language used by EACH programmer to develop the HIGEST selling and LOWEST selling package.

```
select name, dev_in from Software where sold in (select max(sold) from Software group by name) union select name, dev_in from Software where sold in (select min(sold) from Software group by name);
```

34) Who is the OLDEST female programmer WHO joined in 1992.

```
select name from Programmer where sex = 'f' and year(doj) = 1992 OR order by dob desc limit 1;
```

35) In WHICH year where the MOST NUMBER of programmer born?

```
select year(dob) as birth_year, count(*) as programmers from Programmer group by year(dob) order by count(*) desc limit 1;
```

36) In WHICH month did MOST NUMBRER of programmer join?

select month(doj) as join_month, count(*) as programmers_joined from Programmer group by month(doj) order by count(*) desc limit 1;

37) In WHICH language are MOST of the programmer's proficient?

select prof1, count(*) as programmers from Programmer group by prof1 order by count(*) desc limit 1;

38) Who are the male programmers earning BELOW the AVERAGE salary of female programmers?

select name from programmer where sex='m' and salary<(select avg(salary) from programmer where sex='f');

QUERY - IV

1) Display the details of THOSE WHO are drawing the same salary.

select name, salary from programmer where salary = (select salary from programmer group by salary having salary=pro.salary);

2) Display the details of software developed by male programmers earning MORE than 3000.

select * from programmer, software where programmer.name=software.name and salary>3000 and sex='m';

3) Display details of packages developed in PASCAL by female programmers.

select * from programmer,software where programmer.name=software.name and sex='f' and dev_in='pascal';

4) Display the details of the programmer WHO joined BEFORE 1990.

select * from programmer where year(doj)<1990;

5) Display details of software developed in C by female programmers of PRAGATHI.

select * from software,studies ,programmer where software.name=studies.name and programmer.name=software.name and sex='f' and splace='pragathi';

6) Display NUMBER of packages NUMBER of copies sold and sales value of EACH programmer Institute-wise.

Select studies.splace, count(software.dev_in), count(software.sold), sum(software.sold*software.scost) from software,studies where software.name=studies.name group by studies.splace;

7) Display details of software developed in DBASE by male programmers WHO belong to the institute on which MOST NUMBER OF programmer's studies.

```
select * from Software join Programmer on software.name = programmer.name join
Studies on programmer.name = studies.name join (select splace from Studies group by splace order
by count(*) desc limit 1) as most_studied_institute on studies.splace =
most_studied_institute.splace where programmer.sex = 'm' and software.dev_in = 'DBASE';
```

8) Display the details of the software that was developed by male programmers born BEFORE 1965 and female programmers born AFTER 1975.

```
select * from Software join Programmer on software.name = programmer.name where
(programmer.sex = 'm' and programmer.dob < '1965-01-01') or (programmer.sex = 'f' and
programmer.dob > '1975-12-31');
```

9) Display the details of the software that was developed in the language that is NOT the programmer's first proficiency.

```
select distinct * from software, programmer where software.name = programmer.name and
programmer.prof1 != software.dev_in;
```

10) Display details of software that was developed in the language which is NEITHER first NOR second proficiency of the programmer.

```
select * from programmer,software where software.name=programmer.name and
(dev_in!=prof1 and dev_in!=prof2);
```

11) Display details of software developed by male students of SABHARI.

```
select * from programmer,software,studies where programmer.name=software.name and
software.name=studies.name and sex='m' and splace='sabhari';
```

12) Display the names of programmers WHO HAVE NOT developed any package.

```
select name from programmer where name not in (select name from software);
```

13) What is the total cost of the software developed by the programmers by APPLE?

```
select sum(scost) from software,studies where software.name=studies.name and
splace='apple';
```

14) Who are the programmers WHO JOINED in the same day?

```
select p1.name,p2.name,p1.doj from programmer p1,programmer p2 where p1.doj=p2.doj
and p1.name < p2.name;
```

15) Who are the programmers WHO HAVE THE SAME PROF2?

```
select name from programmer where prof2 = (select prof2 from programmer );
```

16) Display the total sales values of software, institutes-wise.

```
select studies.splace,sum(software.sold*software.scost) from software,studies where
studies.name=software.name group by studies.splace;
```

17) In which institutes did the person who developed the COSTLIEST package study?

```
select splace from software ,studies where software.name=studies.name group by splace
having max(dcost)=(select max(dcost) from software);
```

18) Which language listed in prof1 and prof2 HAS NOT BEEN used to develop any package?

```
select prof1 from programmer where prof1 not in(select dev_in from software) union select
prof2 from programmer where prof2 not in(select dev_in from software);
```

19) How much does the person WHO developed the HIGHEST selling package earn and WHAT course did he/she undergo?

```
select programmer.name as name, programmer.salary as salary, studies.course as course
from Programmer join Software on programmer.name = software.name join Studies on
programmer.name = studies.name where software.sold = (select max(sold) from Software);
```

20) How many months will it take for each programmer to recover the cost of the course underwent?

```
select programmer.name as name, studies.course as course, studies.ccost as course_cost,
programmer.salary as salary, round(studies.ccost / programmer.salary, 2) as months_to_recover
from Programmer join Studies on programmer.name = studies.name;
```

21) Which is the COSTLIEST package developed by a person with under 3 year's experiences?

```
select title from Software where scost = (select max(scost) from Software where name in
(select name from Programmer where timestampdiff(year, doj, curdate()) < 3));
```

22) What is the AVERAGE salary for those WHOSE software's sales value is more than 50,000?

```
select avg(salary) from programmer,software where programmer.name=software.name
and sold*scost>50000;
```

23) How many packages were developed by the students WHO studied in the institute that Charge the LOWEST course fee?

```
select count(software.name) from software,studies where software.name=studies.name
group by software.name having min(ccost)=(select min(ccost) from studies);
```

24) How many packages were developed by the person WHO developed the CHEAPEST package? Where did he/she study?

```
select count(*),studies.splace from programmer ,software,studies where
software.name=programmer.name and programmer.name=studies.name group by dev_in having
min(dcost)=(select min(dcost) from software);
```

25) How many packages were developed by female programmers earning MORE than the HIGHEST paid male programmer?

```
select count(dev_in) from programmer ,software where
software.name=programmer.name and sex='f' and salary>(select max(salary) from programmer,
software where software.name=programmer.name and sex='m');
```

26) How many packages were developed by the MOST experienced programmers from BDPS?

```
select count(*) as packages from Software where name in (select name from Programmer
where timestampdiff(year, doj, curdate()) = (select max(timestampdiff(year, doj, curdate())) from
Programmer where prof1 = 'bdps' or prof2 = 'bdps'));
```

27) List the programmers (from software table) and institutes they studied, including those WHO DIDN'T develop any package.

```
select programmer.name as programmer, ifnull(studies.splace, 'No Institute') as institute
from Programmer left join Studies on programmer.name = studies.name;
```

28) List each profit with the number of programmers having that prof1 and the number of packages developed in that prof1.

```
select prof1 as profession, count(distinct programmer.name) as programmers,
count(software.title) as packages from Programmer left join Software on programmer.name =
software.name group by prof1;
```

29) List programmer names (from programmer table) and number of packages EACH developed.

```
select software.name, count(dev_in) from programmer, software where
programmer.name=software.name ;
```

30) List all the details of programmers who have done a course at S.S.I.L.

```
select * from Programmer join Studies on programmer.name = studies.name where
studies.splace = 'S.S.I.L';
```