**SQL ASSIGNMENT**

**TABLES :**

**TABLE – PROGRAMMER:**

CREATE TABLE programmer(name varchar(25) NOT NULL,date\_of\_birth date NOT NULL,date\_of\_join date NOT NULL,sex varchar(1) NOT NULL,prof1 varchar(8),prof2 varchar(8),salary int NOT NULL);

**TABLE – SOFTWARE:**

CREATE TABLE software(name varchar(8) NOT NULL,title varchar(20) NOT NULL,dev\_in varchar(8) NOT NULL, scost int,dcost int,sold int);

**TABLE – STUDIES:**

CREATE TABLE studies (name varchar(10) NOT NULL,splace varchar(9) NOT NULL,course varchar(5),ccost varchar(5));

**QUERIES - I:**

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

**SELECT AVG(salary) FROM programmer WHERE prof1='pascal';**

2)Display the names and ages of all programmers.

**SELECT name,age from programmer**;

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

**SELECT name FROM studies WHERE courses LIKE 'DCS';**

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

**SELECT MAX(SOLD) FROM software;**

5) Display lowest course fee.  
 **SELECT MIN(CCOST) FROM studies;**

6) How many programmer has done PGDCA course.  
 **SELECT COUNT(NAME) FROM studies WHERE course LIKE 'PGDCA';**

7) How much revenue has been earned through sales of packages in C.   
 **SELECT SUM(SOLD\*SCOST) FROM software WHERE dev\_in LIKE 'C';**

8) Display the details of software developed by Ramesh?   
 **SELECT \* FROM software WHERE name='Ramesh;**

9) How many programmers studied at SABHARI.  
 **SELECT COUNT(NAME) FROM studies WHERE splace='Sabhari';**

10) Display the details of PACKAGES whose sales crossed the 20000 mark.  
 **SELECT \* FROM software WHERE (sold\*scost)>20000;**

11) Find out the number of copies which should be sold in order to recover the development cost of each package.  
 **SELECT ROUND(dcost/scost) FROM software WHERE scost\*sold\*dcost;**

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

**SELECT MAX(sco st+dcost) FROM software WHERE dev\_in ='basic';**

13) How many packages were developed in dbase?  
 **SELECT COUNT(title) FROM software WHERE dev\_in ='dbase';**

14) How many programmers studies at paragathi?  
 **SELECT COUNT(name) FROM studies WHERE splace='paragathi';**

15) How many programmers paid 5000 to 10000 for their course?  
 **SELECT COUNT(name) FROM studies WHERE ccost>=5000 AND ccost<=10000;**

16) What is the average course fee?

**SELECT AVG(ccost) FROM studies;**

17) Display the details of programmers knowing c?

**SELECT \* FROM programmer WHERE prof1='C' OR prof2='C';**

18) How many programmers know either Cobol or Pascal?

**SELECT COUNT(name) FROM programmer WHERE prof1='cobol' OR prof1='pascal' OR prof2='cobol' OR prof2='pascal';**

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

**SELECT COUNT(name) FROM programmer WHERE prof1!='C' AND prof1!='PASCAL' AND prof2!='C' AND prof2!='pascal';**

20) How many people draw 2000 to 4000?

**SELECT name FROM programmer WHERE salary>= 2000  
OR salary <=4000;**

21) How old is the oldest male programmers?

**SELECT MAX(FLOOR((SYSDATE - date\_of\_birth)/365)) FROM programmer;**

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

**SELECT name ,FLOOR((SYSDATE -date\_of\_join)/365) FROM programmer ORDER BY name DESC;**

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

**SELECT name FROM programmer WHERE TO\_CHAR (date\_of\_birth,'MM') = TO\_CHAR (SYSDATE,'MM');**

24) How many female programmers are there?

**SELECT COUNT(name) FROM programmer WHERE sex='F';**

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

**SELECT DISTINCT prof1 FROM programmer WHERE sex='M' UNION SELECT DISTINCT prof2 FROM programmer WHERE sex='M';**

26)  What is the Average salary?

**SELECT AVG(salary) FROM programmer;**

27) 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');**

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

**SELECT COUNT(name) FROM programmer WHERE sex='F' AND (prof1='C' OR prof2='C') AND ((SYSDATE-date\_of\_birth)/365) > 24;**

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

**SELECT name FROM WHERE TO\_CHAR (date\_of\_birth,'WW') LIKE**

**TO\_CHAR (SYSDATE,'WW');**

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

**SELECT name FROM programmer WHERE TO\_CHAR (date\_of\_birth ,'WW') LIKE TO\_CHAR (SYSDATE,'WW');**

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

**SELECT name FROM programmer WHERE FLOOR ((SYSDATE- date\_of\_join)/365)=2;**

32) 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);**

33) What is the length of the shortest name in the programmer table?  
 **SELECT MIN(LENGTH(name)) FROM programmer;**

34) What is the average development cost of a package developed in COBOL?  
 **SELECT AVG(dcost) FROM software WHERE dev\_in='cobol';**

35) Display the name,sex,dob(DD/MM/YY format), doj for all the programmers without using conversion function?  
 **SELECT name,sex,SUBSTR(date\_of\_birth,1,2)'/'SUBSTR (date\_of\_birth ,4,3) '/' SUBSTR (date\_of\_birth,8,2) , SUBSTR (date\_of\_join,1,2) '/' SUBSTR (date\_of\_join,4,3) '/' SUBSTR (date\_of\_join,8,2) FROM programmer;**

36) Who are the programmers who were born on the last day of the month?  
 **SELECT name FROM programmer WHERE last\_day(date\_of\_birth) LIKE date\_of\_birth;**

37) What is the amount paid in salaries of the male programmers who do not know Cobol?  
 **SELECT salary FROM programmer WHERE sex='M' AND NOT IN (prof1!='cobol', prof2!='cobol);**

38) Display the title, scost, dcost and difference between scost and dcost in descending order of difference?  
 **SELECT title,scost,dcost,dcost - scost DIFF FROM software ORDER BY 4 DESC;**

39) Display the names of the packages whose names contain more than 1 word?  
 **SELECT title FROM software WHERE title LIKE '% %';**

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

**SELECT MAX (scost) FROM software WHERE dev\_in LIKE 'basic';**

41) What is the average age of female programmers?

**SELECT FLOOR(AVG(FLOOR((SYSDATE – date\_of\_birth)/365))) FROM PROGRAMMER;**

**QUERIES - II:**

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

**SELECT dev\_in language,COUNT(title) AS no\_of\_pack FROM software GROUP BY dev\_in;**

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

**SELECT name,COUNT(title) No\_of\_Pack  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 TO\_CHAR(date\_of\_birth,'YY') AS YEAR,COUNT(name) FROM programmer GROUP BY TO\_CHAR(date\_of\_birth,'YY');**

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

**SELECT TO\_CHAR(date\_of\_join,'YY') AS YEAR,COUNT(name) FROM programmer GROUP BY TO\_CHAR(date\_of\_join,'YY');**

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

**SELECT SUBSTR(date\_of\_birth,4,3),COUNT(name) FROM programmer GROUP BY SUBSTR(date\_of\_birth,4,3);**

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

**SELECT SUBSTR(date\_of\_join,4,3),COUNT(name) FROM programmer GROUP BY SUBSTR(date\_of\_join,4,3);**

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 language,SUM(dcost) FROM software GROUP BY dev\_in;**

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

**SELECT dev\_in ,SUM(scost) FROM software GROUP BY dev\_in;**

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

**SELECT name,SUM(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 programmer's name, costliest package, and cheapest packages developed by His/Her.

**SELECT name,MIN(dcost),MAX(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),AVG(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) FROM studies GROUP BY splace;**

24) Display names of male and female programmers.

**SELECT name,sex FROM programmer ORDER BY sex;**

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

**SELECT name,title FROM software ORDER 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-(sold\*scost)) FROM software GROUP BY name HAVING SUM(dcost)>SUM(sold\*scost);**

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 \* FROM programmer WHERE salary=(SELECT MAX(salary) FROM programmer WHERE prof1 LIKE 'C' OR prof2 LIKE 'C');**

2) Who is the highest paid female cobol programmer?

**SELECT \* FROM programmer WHERE salary=(SELECT MAX(salary) FROM programmer WHERE (prof1 LIKE 'cobol' OR prof2 LIKE 'cobol')) AND sex LIKE 'F';**

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

**SELECT DISTINCT name, salary, prof1 FROM programmer WHERE (salary,prof1) IN (SELECT MAX(salary),prof1 FROM programmer GROUP BY prof1);**

4) Who is the LEAST experienced programmer?

**SELECT FLOOR((SYSDATE-date\_of\_join)/365) exp,name FROM programmer WHERE FLOOR((SYSDATE-date\_of\_join)/365) = (SELECT MIN(FLOOR((SYSDATE-date\_of\_join)/365)) FROM programmer);**

5) Who is the MOST experienced programmer?

**SELECT FLOOR((SYSDATE-date\_of\_join)/365) exp,name,prof1,prof2 FROM programmer WHERE FLOOR((SYSDATE-date\_of\_join)/365) = (SELECT MAX(FLOOR((SYSDATE-date\_of\_join)/365)) FROM programmer) AND (prof1 LIKE 'cobol' OR prof2 LIKE 'cobol');**

6) Which language is known by ONLY ONE programmer?

**SELECT prof1 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;**

7) Who is the YONGEST programmer knowing DBASE?

**SELECT FLOOR((SYSDATE-date\_of\_birth)/365) age, name, prof1, prof2 FROM programmer WHERE FLOOR((SYSDATE-date\_of\_birth)/365) = (SELECT MIN(FLOOR((SYSDATE-date\_of\_birth)/365)) FROM programmer WHERE prof1 LIKE 'dbase' OR prof2 LIKE 'dbase');**

8) Which institute has MOST NUMBER of students?

**SELECT splace FROM studies GROUP BY splace HAVING COUNT(splace)= (SELECT MAX(COUNT(splace)) FROM studies GROUP BY splace);**

9) 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'));**

10) Which is the COSTLIEST course?

**SELECT course FROM studies WHERE ccost = (SELECT MAX(ccost) FROM studies);**

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

**SELECT course FROM studies GROUP BY course HAVING COUNT(course)= (SELECT MAX(COUNT(course)) FROM studies GROUP BY course);**

12) 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);**

13) Which institute conducts COSTLIEST course?

**SELECT splace FROM studies WHERE ccost = (SELECT MAX(ccost) FROM studies);**

14) Which course has below AVERAGE number of students?

**SELECT course FROM studies GROUP BY course HAVING COUNT(name)<(SELECT AVG(COUNT(name)) FROM studies GROUP BY course) ;**

15) Which institute conducts the above course?

**SELECT splace FROM studies WHERE course IN (SELECT course FROM studies GROUP BY course HAVING COUNT(name) < (SELECT AVG(COUNT(name)) FROM studies GROUP BY course));**

16) 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);**

17) Which package has the HIGEST development cost?

**SELECT title,dcost FROM software WHERE dcost = (SELECT MAX(dcost) FROM software);**

18) Which package has the LOWEST selling cost?

**SELECT title,scost FROM software WHERE scost = (SELECT MIN(scost) FROM software);**

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

**SELECT name,sold FROM software WHERE sold = (SELECT MIN(sold) FROM software);**

20) 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);**

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

**SELECT sold,title FROM software WHERE title = (SELECT title FROM software WHERE (dcost-scost)=(SELECT MIN(dcost-scost) FROM software);**

22) Which is the COSTLIEAST package developed in PASCAL?

**SELECT title FROM software WHERE dcost = (SELECT MAX(dcost) FROM software WHERE dev\_in LIKE 'pascal');**

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

**SELECT dev\_in FROM software GROUP BY dev\_in HAVING MAX(dev\_in) = (SELECT MAX(dev\_in) FROM software);**

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

**SELECT name FROM software GROUP BY name HAVING MAX(name) = (SELECT MAX(name) FROM software);**

25) Who is the author of the COSTLIEST package?

**SELECT name,dcost FROM software WHERE dcost = (SELECT MAX(dcost) FROM software);**

26) 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);**

27) 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');**

28) 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);**

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

**SELECT name FROM software WHERE sold\*scost > 2\*dcost;**

30) Display programmer names and CHEAPEST package developed by them in EACH

language?

**SELECT name,title FROM software WHERE dcost IN (SELECT MIN(dcost) FROM software GROUP BY dev\_in);**

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

**SELECT name FROM programmer WHERE date\_of\_birth=(SELECT (MAX(date\_of\_birth)) FROM programmer WHERE TO\_CHAR(date\_of\_birth,'YYYY') LIKE '1965');**

32) 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);**

33) Who is the OLDEST female programmer WHO joined in 1992?

**SELECT name FROM programmer WHERE date\_of\_join=(SELECT (MIN(date\_of\_join)) FROM programmer WHERE TO\_CHAR(date\_of\_join,'YYYY') LIKE '1992');**

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

**SELECT DISTINCT TO\_CHAR(date\_of\_birth,'YYYY') FROM programmer WHERE TO\_CHAR(date\_of\_join,'YYYY') = (SELECT MIN (TO\_CHAR (date  
\_of\_join,'YYYY')) FROM programmer);**

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

**SELECT DISTINCT TO\_CHAR(date\_of\_join,'MONTH') FROM programmer WHERE TO\_CHAR(date\_of\_join,'MON') = (SELECT MIN(TO\_CHAR(date\_of\_join,'MON')) FROM programmer);**

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

**SELECT prof1 FROM programmer GROUP BY prof1 HAVING COUNT(prof1)=(SELECT  MAX(COUNT(prof1)) FROM programmer GROUP BY prof1) OR COUNT(prof2)=(SELECT MAX(COUNT(prof2)) FROM programmer GROUP BY prof2) UNION SELECT prof2 FROM programmer GROUP BY prof2 HAVING COUNT(prof1)=(SELECT MAX(COUNT(prof1)) FROM Programmer GROUP BY prof1) OR COUNT(prof2)=(SELECT MAX(COUNT(prof2)) FROM programmer GROUP BY prof2);**

37) 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;**

**QUERIES - IV:**

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

**SELECT name, salary FROM programmer WHERE salary = ANY(SELECT salary FROM programmer GROUP BY salary HAVING salary=salary AND COUNT(\*)>1);**

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

**SELECT \* from programmer p, software s WHERE p.name=s.name AND salary>3000 AND sex='M';**

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

**SELECT \* FROM programmer p, software s WHERE p.name=s.name AND sex='F' AND dev\_in='pascal';**

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

**SELECT \* FROM programmer WHERE TO\_CHAR(date\_of\_join,'YY')<90;**

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

**SELECT \* FROM software s, studies st, programmer p WHERE s.name=st.name AND p.name=s.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 programmers studies.

**SELECT \* FROM programmer, software, studies WHERE programmer.name=software.name AND software.name=studies.name AND programmer.name=studies.name AND sex='m' AND dev\_in='dbase' AND splace= (SELECT splace FROM studies GROUP BY splace HAVING COUNT(splace) =(SELECT MAX(COUNT(splace))FROM studies GROUP BY splace));**

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

**SELECT \* FROM programmer p,software s WHERE s.name=p.name AND sex='M' AND TO\_CHAR(date\_of\_birth,'YY')<64 OR sex='F' AND TO\_CHAR(date\_of\_birth,'YY')>75);**

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

**SELECT DISTINCT \* FROM software x, programmer y WHERE y.prof1 <> x.dev\_in AND x.name = y.name;**

10) Display details of software that was developed in the language which is NITHER first NOR second proficiency of the programmer.

**SELECT\* FROM programmer p,software s WHERE s.name=p.name AND (dev\_in <> prof1 AND dev\_in <> prof2);**

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

**SELECT \* FROM programmer p,software s,studies st WHERE p.name=s.name AND s.name=st.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 s,studies st WHERE s.name=st.name AND splace='apple';**

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

**SELECT programmer.name,programmer.date\_of\_join FROM programmer a,programmer b WHERE a.date\_of\_join=b.date\_of\_join AND a.name <> b.name;**

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

**SELECT name FROM programmer WHERE prof2 = ANY(SELECT prof2 FROM programmer GROUP BY prof2 HAVING COUNT(\*) >1);**

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 st,studies s WHERE s.name=st.name GROUP BY splace,dcost 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.salary, studies.course FROM programmer p1,software s1,studies s2 WHERE p1.name=s1.name AND s1.name=s2.name AND scost=(SELECT MAX(scost) FROM software);**

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

**SELECT programmer.name,CEIL(ccost/salary) FROM programmer p, studies s WHERE s.name=p.name;**

21) Which is the COSTLIEST package developed by a person with under 3 years expenence?

**SELECT software.title FROM software x, programmer y WHERE (months\_between(sysdate, y.dare\_of\_join)/12) > 3 AND x.name=y.name;**

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

**SELECT AVG(salary) FROM programmer p,software s WHERE p .name=s.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 s,studies st WHERE s.name=st.name GROUP BY s.name,ccost 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(\*) FROM programmer p,software s WHERE s .name=p.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 p,software s WHERE s.name=p.name AND sex='F' AND salary>( SELECT MAX(salary) FROM programmer p,software s WHERE s.name=p.name And sex='M');**

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

**SELECT COUNT(software.name) FROM software x, programmer y, studies x WHERE months\_between(sysdate, y.doj)/12) = (SELECT MAX(months\_between (sysdate,y.date\_of\_join)/12) FROM programmer y, studies = WHERE x.splace = 'BDPS' AND y.name = z.name) AND x.name=y.name AND z.splace='BDPS';**

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

**SELECT name,splace FROM studies WHERE name NOT IN(SELECT name FROM software);**

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

**SELECT COUNT(\*),SUM(scost\*sold-dcost) FROM software WHERE dev\_in IN (SELECT prof1 FROM programmer) GROUP BY dev\_in;**

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

**SELECT software.name,COUNT(dev\_in) FROM programmer p,software s WHERE p.name=s.name GROUP BY s.name;**

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

**SELECT \* FROM programmer,studies WHERE splace='SSIL' AND programmer.name=software.name AND programmer.name=studies.name AND studies.splace='s.s.i.l.';**