

DBMS TASK

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1. Programmer table creation query:

```
create table Programmer (  
                                Programmer_id integer,  
                                Full_Name varchar(20),  
                                Date_of_birth date,  
                                Date_of_joining date,  
                                Sex varchar(10),  
                                Language1 varchar(20),  
                                Language2 varchar(20),  
                                Salary integer  
                                );
```

2. Value insertion query:

```
insert into Programmer values  
  
    (1,'Varun','1998-04-21','2020-02-21','Male','Java','C',50000),  
  
    (2,'Nithya','1998-05-11','2018-09-18','Female','Python','C++',60000),  
  
    (3,'Sita','2000-01-02','2015-06-29','Female','Java','C',69000),  
  
    (4,'Ram','1999-09-22','2019-05-21','Male','Java','C#',60000),  
  
    (5,'Jaanu','1998-03-26','2020-01-02','Female','Python','C#',50000),  
  
    (6,'Rajan','1995-09-22','2020-04-01','Male','Java','C#',50000),  
  
    (7,'Ajay','2000-09-22','2015-04-01','Male','Python','C#',70000);
```

Table 1: Programmer

	Programmer_id	Full_Name	Date_of_birth	Date_of_joining	Sex	Language1	Language2	Salary
▶	1	Varun	1998-04-21	2020-02-21	Male	Java	C	50000
	2	Nithya	1998-05-11	2018-09-18	Female	Python	C++	60000
	3	Sita	2000-01-02	2015-06-29	Female	Java	C	69000
	4	Ram	1999-09-22	2019-05-21	Male	Java	C#	60000
	5	Jaanu	1998-03-26	2020-01-02	Female	Python	C#	50000
	6	Rajan	1995-09-22	2020-04-01	Male	Java	C#	50000
	7	Ajay	2000-09-22	2015-04-01	Male	Python	C#	70000

3. Software table creation query:

```
create table Software(
    Full_Name varchar(20),
    Title varchar(30),
    Developed_in varchar(10),
    Selling_cost numeric(7,2),
    Developing_cost Numeric(6),
    Sold_Count numeric(3)
);
```

4. Value Insertion query:

```
insert into Software values
('Varun','Parachutes','Java',4000.90,20000,1399),
('Nithya','E-commerce','Python',3000.00,15000,1010),
('Sita','Personal Doc','Java',5000.30,30000,11500),
('Ram','Music Mixer','C#',2000.20,10000,1400),
('Jaanu','Story Teller','Python',3500.00,10000,2500),
('Rajan',"Health Taker",'Java',25000,15000,2000),
('Rajan',"Smart Home controller",'C#',35000,20000,2700),
('Ajay',"Mail Organizer",'Python',10000,5000,9900);
```

Table 2: Software

	Full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_Count
►	Varun	Parachutes	Java	4000.90	20000	1399
	Nithya	E-commerce	Python	3000.00	15000	1010
	Sita	Personal Doc	Java	5000.30	30000	11500
	Ram	Music Mixer	C#	2000.20	10000	1400
	Jaanu	Story Teller	Python	3500.00	10000	2500
	Rajan	Health Taker	Java	25000.00	15000	2000
	Rajan	Smart Home controller	C#	35000.00	20000	2700
	Ajay	Mail Organizer	Python	10000.00	5000	9900

5. Software table creation query:

create table Studies (

Full_Name varchar(20),

studies_place varchar(30),

Course varchar(20),

Course_Cost numeric(6)

);

6. Value Insertion query:

insert into Studies values

('Varun','MIT','Coding Basics',2000),

('Varun','MIT','J2EE',5000),

('Nithya','CIT','Basics of OOPS',3000),

('Nithya','CIT','Python Basics',5000),

('Sita','BIT','Coding Basics',2500),

('Sita','BIT','J2EE',5500),

('Ram','VIT','J2EE',4500),

('Ram','VIT','DOT-Net Developer',5000),

('Jaanu','KIT','Python Basics',8000),

('Jaanu','KIT','DOT-Net Developer',4500),

('Rajan','AIT','J2EE',4500),

('Rajan','AIT','DOT-Net Developer',4500),

('Ajay','KCT','Python Basics',5000),

('Ajay','AIT','DOT-Net Developer',4500);

Table 3: Studies

	Full_Name	stuides_place	Course	Course_Cost
►	Varun	MIT	Coding Basics	2000
	Varun	MIT	J2EE	5000
	Nithya	CIT	Basics of OOPS	3000
	Nithya	CIT	Python Basics	5000
	Sita	BIT	Coding Basics	2500
	Sita	BIT	J2EE	5500
	Ram	VIT	J2EE	4500
	Ram	VIT	DOT-Net Developer	5000
	Jaanu	KIT	Python Basics	8000
	Jaanu	KIT	DOT-Net Developer	4500
	Rajan	AIT	J2EE	4500
	Rajan	AIT	DOT-Net Developer	4500
	Ajay	KCT	Python Basics	5000
	Ajay	AIT	DOT-Net Developer	4500

Questions

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

Select Avg(Selling_cost) from Software where Developed_in = "Python";

	Avg(Selling_cost)
►	5500.000000

2) Display the names and ages of all programmers.

Select Full_Name , DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0 AS Age FROM Programmer;

	Full_Name	Age
►	Varun	24
	Nithya	24
	Sita	22
	Ram	23
	Jaanu	24
	Rajan	27
	Ajay	22

3) Display the names and ages of all the programmers who have undergone training in J2EE course.

SELECT Full_Name, Course from studies where Course like 'J2EE';

	full_name	Age
▶	Varun	24
	Sita	23
	Ram	23
	Rajan	27

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

Select max(Sold_Count) from Software;

	max(Sold_Count)
▶	11500

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

Select Full_Name, Date_of_birth from Programmer where Date_of_birth like "____01____";

	Full_Name	Date_of_birth
▶	Sita	2000-01-02

6) Display lowest course fee

Select min(Course_Cost) from Studies;

	min(Course_Cost)
▶	2000

7) How many programmers has done J2EE course.

select count(Full_Name) from Studies where Course like "J2EE";

Output:

	count(Full_Name)
▶	4

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

Select sum(Selling_Cost Sold_Count) from Software where Developed_in ="Java";*

	sum(Selling_Cost* Sold_Count)
▶	113100709.10

9) Display the details of software developed by Ram?

*Select * from Software where Full_Name ="Ram";*

	Full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_Count
▶	Ram	Music Mixer	C#	2000.20	10000	1400

10)How many programmers studied at VIT.

Select count(Full_name) from Studies where stuides_place = "VIT";

	count(Full_name)
▶	2

11)Display the details of PACKAGES whose sales crossed the 5000 mark

*Select * From Software where Sold_Count>5000;*

	Full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_Count
▶	Sita	Personal Doc	Java	5000.30	30000	11500
	Ajay	Mail Organizer	Python	10000.00	5000	9900

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

*Select * from Software where Selling_Cost * Sold_Count >= Developing_Cost ;*

	Full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_C
▶	Varun	Parachutes	Java	4000.90	20000	1399
	Nithya	E-commerce	Python	3000.00	15000	1010
	Sita	Personal Doc	Java	5000.30	30000	11500
	Ram	Music Mixer	C#	2000.20	10000	1400
	Jaanu	Story Teller	Python	3500.00	10000	2500
	Rajan	Health Taker	Story Teller	25000.00	15000	2000
	Rajan	Smart Home controller	C#	35000.00	20000	2700
	Ajay	Mail Organizer	Python	10000.00	5000	9900

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

select max(Selling_Cost) From Software where Developed_in="Java";

	max(Selling_Cost)
▶	25000.00

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

*Select * from Software where Selling_Cost * Sold_Count >= Developing_Cost ;*

	Full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_C
▶	Varun	Pa Parachutes	Java	4000.90	20000	1399
	Nithya	E-commerce	Python	3000.00	15000	1010
	Sita	Personal Doc	Java	5000.30	30000	11500
	Ram	Music Mixer	C#	2000.20	10000	1400
	Jaanu	Story Teller	Python	3500.00	10000	2500
	Rajan	Health Taker	Java	25000.00	15000	2000
	Rajan	Smart Home controller	C#	35000.00	20000	2700
	Ajay	Mail Organizer	Python	10000.00	5000	9900

15) How many packages were developed in Java?

Select count(Full_Name) from Software where developed_in="Java";

	count(Full_Name)
▶	3

16) How many programmers studies at VIT?

select Count(Full_Name) from Studies where stuides_place = "VIT";

	Count(Full_Name)
▶	2

17) How many programmers paid 3000 to 5000 for their course?

select Count(Full_Name) from Studies where Course_Cost between 3500 and 5000;

	Count(Full_Name)
▶	9

18) What is the average course fee?

select avg(Course_Cost) from Studies;

	avg(Course_Cost)
▶	4535.7143

19) Display the details of programmers knowing c?

*select * from Programmer where language1 = "C" or language2 = "C";*

	Programmer_id	Full_Name	Date_of_birth	Date_of_joining	Sex	Language1	Language2	Salary
▶	1	Varun	1998-04-21	2020-02-21	Male	Java	C	50000
	3	Sita	2000-01-02	2015-06-29	Female	Java	C	69000

20) How many programmers know either Java or C?

select count(Full_Name) from Programmer where language1 = "Java" or language2 = "C";

	count(Full_Name)
▶	4

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

select count(Full_Name) from Programmer where language1 != "Java" and language2 != "C" or language1 != "Java" and language2 != "C";

	count(Full_Name)
▶	3

22) How old is the oldest male programmers?

select max(DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0) As Age FROM Programmer where Sex = "Male";

	Age
▶	27

22) Average old is the oldest male programmers?

select avg(DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0) As Age FROM Programmer where Sex = "Female";

	Age
▶	23.333333333333332

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

select Full_Name from Programmer order by (DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0) desc;

	Full_Name
▶	Rajan
	Varun
	Nithya
	Jaanu
	Ram
	Sita
	Ajay

25) How many female programmers are there?

select count(Full_Name) from Programmer where Sex = "Female";

	count(Full_Name)
▶	3

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

Select Language1 , Language2 from Programmer where Sex = "Male";

	Language1	Language2
▶	Java	C
	Java	C#
	Java	C#
	Python	C#

27) What is the average salary?

select avg(Salary) from Programmer;

	avg(Salary)
▶	58428.5714

28) How many people draw 2000 to 6000?

select count() from Programmer where Salary between 4000 and 60000;*

	count(*)
▶	5

29) Display the details of those who don't know C, C++ or Python?

*select * from Programmer Where Language1 != "C" and Language2 != "C" and Language1 != "C++" and Language2 != "C++" and Language1 != "Java" and Language2 != "Java";*

	Programmer_id	Full_Name	Date_of_birth	Date_of_joining	Sex	Language1	Language2	Salary
▶	5	Jaanu	1998-03-26	2020-01-02	Female	Python	C#	50000
	7	Ajay	2000-09-22	2015-04-01	Male	Python	C#	70000

30) How many Female programmers knowing C are above 21 years of age?

Select Count(DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0 > 21) from Programmer where Sex="Female";

	Count(DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), Date_of_birth)), '%Y') + 0 > 21)
▶	3

31) Find out the cost of the software developed by Rajan?

select Developing_cost from Software where Full_Name = "Rajan";

	Developing_cost
▶	15000
	20000

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

select distinct studied_place from Studies;

	studied_place
▶	MIT
	CIT
	BIT
	VIT
	KIT
	AIT
	KCT

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

Select Title,Developing_cost,Selling_cost,Selling_cost-Developing_cost as Difference from Software order by Difference desc;

	Title	Developing_cost	Selling_cost	Difference
▶	Story Teller	10000	35000.00	25000.00
	Parachutes	20000	40000.90	20000.90
	Personal Doc	30000	50000.30	20000.30
	E-commerce	15000	30000.00	15000.00
	Smart Home controller	20000	35000.00	15000.00
	Music Mixer	10000	20000.20	10000.20
	Health Taker	15000	25000.00	10000.00
	Mail Organizer	5000	10000.00	5000.00

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

select Full_Name,Salary from Programmer where (Language1 != "C" or Language2 != "C") and Sex="Male";

	Full_Name	Salary
▶	Varun	50000
	Ram	60000
	Rajan	50000
	Ajay	70000

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

Select count(distinct Course) from Studies;

	count(distinct Course)
▶	5

36) What is the average development cost of a package developed in Java?

select Avg(Developing_cost) from Software where Developed_in ="Java";

	Avg(Developing_cost)
▶	21666.6667

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

Select full_name from programmer where
month(Date_of_birth)=month(sysdate());

	full_name
▶	Sita

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

Select full_name from programmer where
week(Date_of_birth)=week(sysdate());

	full_name

39) Display the details of those with less than 3 years of experience?

select full_name, datediff(sysdate(),Date_of_joining)/365.25 as exp from programmer where datediff(sysdate(),Date_of_joining)/365.25<3;

	full_name	exp
▶	Varun	2.9240
	Rajan	2.8145

40) Display the details of those who will be completing 3 years of service this year?

select full_name, datediff(sysdate(),Date_of_joining)/365.25 as exp from programmer where datediff(sysdate(),Date_of_joining)/365.25<3 && datediff(sysdate(),Date_of_joining)/365.25>2.6;

	full_name	exp
▶	Varun	2.9240
	Rajan	2.8145

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

select Title from software where (developing_cost*sold_count)-selling_cost<0;

	Title
▶	Parachutes

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

select Title from software where sold_count<=0;

	Title
▶	Parachutes

43) Display the names of programmers whose names contain upto 5 characters

select full_name from programmer where length(full_name)<=5;

	full_name
▶	Varun
	Sita
	Ram
	Jaanu
	Rajan
	Ajay

44) How many female programmers knowing java have more than 2 years of experience?

```
select full_name from programmer where  
datediff(sysdate(),date_of_joining)/365.25 >3 and sex ='female';
```

	full_name
--	-----------

45) What is the length of the shortest name in the programmer table

```
select full_name,length(full_name) as Len from programmer order by  
length(full_name) limit 1;
```

	full_name	Len
▶	Ram	3

46) What is the average development cost of a package developed in java?

```
select avg(developing_cost)As average_development_cost_in_java from  
software where developed_in like 'Java';
```

	average_development_cost_in_java
▶	21666.6667

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

```
select full_name from programmer where full_name like '%a%a%';
```

	full_name
▶	Jaanu
	Rajan
	Ajay

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

```
select full_name from programmer where last_day (date_of_birth) =  
date_of_birth;
```

	Name
▶	Varun

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

select full_name,salary from programmer where language1 not like 'Java' and language2 not like 'Java'and sex='Male';

	full_name	salary
▶	Ajay	70000

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

Select full_name ,Date_of_birth, Date_of_joining from programmer where Date_of_birth = Date_of_joining;

	full_name	Date_of_birth	Date_of_joining
--	-----------	---------------	-----------------

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

Select title from software where title like '% %';

	title
▶	Personal Doc
	Music Mixer
	Story Teller
	Health Taker
	Smart Home controller
	Mail Organizer

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

select title, developing_cost, selling_cost, (Selling_cost - developing_cost) as Profit from software order by profit desc;

	title	developing_cost	selling_cost	Profit
▶	Story Teller	10000	35000.00	25000.00
	Parachutes	20000	40000.90	20000.90
	Personal Doc	30000	50000.30	20000.30
	E-commerce	15000	30000.00	15000.00
	Smart Home controller	20000	35000.00	15000.00
	Music Mixer	10000	20000.20	10000.20
	Health Taker	15000	25000.00	10000.00
	Mail Organizer	5000	10000.00	5000.00

51) Display THE NUMBER OF packages developed in EACH language

Select developed_in, count(title) from software group by developed_in;

	developed_in	count(title)
▶	Java	3
	Python	3
	C#	2

52) Display THE NUMBER OF packages developed by EACH person

Select full_name as Name, count(title) as software_count from software group by name;

	Name	software_count
▶	Varun	1
	Nithya	1
	Sita	1
	Ram	1
	Jaanu	1
	Rajan	2
	Ajay	1

53) Display THE NUMBER OF male and female programmer.

select sex,count(Sex) as gender from programmer group by sex;

	sex	gender
▶	Male	4
	Female	3

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

select developed_in, max(Selling_cost) as Costliest_package,max(Sold_count) maximum_selling from software group by developed_in;

	developed_in	Costliest_package	maximum_selling
▶	Java	50000.30	11500
	Python	35000.00	9900
	C#	35000.00	2700

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

select year(date_of_birth),count(year(date_of_birth)) from programmer group by year(date_of_birth);

	year(date_of_birth)	count(year(date_of_birth))
▶	1998	3
	2000	2
	1999	1
	1995	1

56) Display THE NUMBER OF people JOINED in EACH YEAR

select year(date_of_joining) as Year,count(year(date_of_joining))as DOJ from programmer group by year(date_of_joining);

	Year	DOJ
▶	2020	3
	2018	1
	2015	2
	2019	1

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

select month(date_of_joining) as Month,count(month(date_of_joining))as DOJ from programmer group by month(date_of_joining);

	Month	DOJ
▶	2	1
	9	1
	6	1
	5	1
	1	1
	4	2

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

select month(date_of_birth) as Month,count(month(date_of_birth))as DOB from programmer group by month(date_of_birth);

	Month	DOB
▶	4	1
	5	1
	1	1
	9	3
	3	1

59)Display the language wise COUNTS of prof1

select language1 ,count(language1) as Count from programmer group by language1;

	language1	Count
▶	Java	4
	Python	3

60)Display the language wise COUNTS of prof2

select language2, count(language2) as Count from programmer group by language2;

	language2	Count
▶	C	2
	C++	1
	C#	4

61) Display THE NUMBER OF people in EACH salary group

select salary, count(salary) as count from programmer group by salary;

	salary	count
▶	50000	3
	60000	2
	69000	1
	70000	1

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

select studied_place ,count(studied_place) as count from STUDIES group by studied_place;

	studied_place	count
▶	MIT	2
	CIT	2
	BIT	2
	VIT	2
	KIT	2
	AIT	3
	KCT	1

63) Display THE NUMBER OF people who studied in EACH course

select course,count(course) as count from STUDIES group by course;

	course	count
▶	Coding Basics	2
	J2EE	4
	Basics of OOPS	1
	Python Basics	3
	DOT-Net Developer	4

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

Select developed_in,sum(developing_cost) as total_cost from software group by developed_in;

	developed_in	total_cost
▶	Java	65000
	Python	30000
	C#	30000

65) Display the selling cost of the package developed in EACH language

Select developed_in, sum(selling_cost) as Selling_cost from software group by developed_in;

	developed_in	Selling_cost
▶	Java	115001.20
	Python	75000.00
	C#	55000.20

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

Select full_name, sum(developing_cost) from software group by full_name ;

	full_name	sum(developing_cost)
▶	Varun	20000
	Nithya	15000
	Sita	30000
	Ram	10000
	Jaanu	10000
	Rajan	35000
	Ajay	5000

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

Select full_name, sum(selling_cost*sold_count) from software group by full_name ;

	full_name	Sales_value
▶	Varun	55961259.10
	Nithya	30300000.00
	Sita	575003450.00
	Ram	28000280.00
	Jaanu	87500000.00
	Rajan	144500000.00
	Ajay	99000000.00

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

Select full_name, count(title) as No_of_Package from software group by full_name ;

	full_name	No_of_Package
▶	Varun	1
	Nithya	1
	Sita	1
	Ram	1
	Jaanu	1
	Rajan	2
	Ajay	1

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

select developed_in,sum(selling_cost) from software group by developed_in;

	developed_in	sum(selling_cost)
▶	Java	115001.20
	Python	75000.00
	C#	55000.20

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

select full_name,max(developing_cost),min(developing_cost) from software group by full_name;

	full_name	max(developing_cost)	min(developing_cost)
▶	Varun	20000	20000
	Nithya	15000	15000
	Sita	30000	30000
	Ram	10000	10000
	Jaanu	10000	10000
	Rajan	20000	15000
	Ajay	5000	5000

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

```
select avg(developing_cost), avg(selling_cost), avg(selling_cost*sold_count)
from software;
```

	avg(developing_cost)	avg(selling_cost)	avg(selling_cost*sold_count)
▶	15625.0000	30625.175000	127533123.637500

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

```
select Studied_place, avg(course_cost), count(course)from studies group by
studied_place;
```

Studied_place	avg(course_cost)	count(course)
MIT	3500.0000	2
CIT	4000.0000	2
BIT	4000.0000	2
VIT	4750.0000	2
KIT	6250.0000	2
AIT	4500.0000	3
KCT	5000.0000	1

73) Display EACH institute name with NUMBER of students.

```
select Studied_place, count(full_name)from studies group by studied_place;
```

Studied_place	count(full_name)
MIT	2
CIT	2
BIT	2
VIT	2
KIT	2
AIT	3
KCT	1

74) Display names of male and female programmers.

```
select full_name, sex from programmer order by sex;
```

full_name	sex
Nithya	Female
Sita	Female
Jaanu	Female
Varun	Male
Ram	Male
Rajan	Male
Ajay	Male

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

```
select full_name, title from software order by title;
```

full_name	title
Nithya	E-commerce
Rajan	Health Taker
Ajay	Mail Organizer
Ram	Music Mixer
Varun	Parachutes
Sita	Personal Doc
Rajan	Smart Home controller
Jaanu	Story Teller

76) Display the NUMBER of packages in EACH language

```
select count(title), developed_in from software group by developed_in;
```

count(title)	developed_in
3	Java
3	Python
2	C#

77) Display the NUMBER of packages in EACH language for which development cost is less than 100000.

```
select count(title), developed_in from software where developing_cost < 100000 group by developed_in;
```

count(title)	developed_in
1	Python

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

```
select developed_in , avg(Selling_cost-developing_cost) from software group by developed_in;
```

developed_in	avg(Selling_cost-developing_cost)
Java	16667.066667
Python	15000.000000
C#	12500.100000

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

```
select sum(Selling_cost),sum(developing_cost),sum(Selling_cost-
developing_cost) from software where developing_cost> (selling_cost*sold_count);
```

sum(Selling_cost)	sum(developing_cost)	sum(Selling_cost-developing_cost)
40000.90	20000	20000.90

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

```
select max(salary),min(salary),avg(salary)from programmer where salary
>55000;
```

max(salary)	min(salary)	avg(salary)
70000	60000	64750.0000

81) Who is the highest paid C programmer?

```
select full_name, Language1, Language2 from programmer where salary =
(select max(salary) from programmer where language2 like 'c');
```

full_name	Language1	Language2
Sita	Java	C

82) Who is the highest paid female java programmer?

```
select full_name, Language1, Language2 from programmer where salary =
(select max(salary) from programmer where language1 like 'Java' and sex ='female');
```

full_name	Language1	Language2
Sita	Java	C

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

```
select full_name, language2,Salary from programmer where
(language2,salary)in (select language2 ,max(salary) from programmer group by
language2);
```

full_name	language2	Salary
Nithya	C++	60000
Sita	C	69000
Ajay	C#	70000

84) Who is the LEAST experienced programmer?

```
select full_name, salary from programmer where
floor(datediff(sysdate(),Date_of_joining)/365.25)=(select
min(floor(datediff(sysdate(),Date_of_joining)/365.25)) from programmer);
```

full_name	salary
Varun	50000
Rajan	50000

85) Who is the MOST experienced programmer?

```
select full_name, salary from programmer where
floor(datediff(sysdate(),Date_of_joining)/365.25)=(select
max(floor(datediff(sysdate(),Date_of_joining)/365.25)) from programmer);
```

full_name	salary
Sita	69000
Ajay	70000

86) Which language is known by ONLY ONE programmer

```
SELECT language1 FROM Programmer GROUP BY language1 HAVING
language1 NOT IN (SELECT language2 FROM PROGRAMMER) AND
COUNT(language1 )=1
```

UNION

```
SELECT language2 FROM PROGRAMMER GROUP BY language2 HAVING
language2 NOT IN (SELECT language1 FROM PROGRAMMER) AND
COUNT(language2 )=1;
```

language1
Ruby
Purecript

87)Who is the YONGEST programmer knowing java

```
select full_name, floor(datediff(sysdate(),date_of_birth)/365.35) as Age from
programmer where floor(year((sysdate()-date_of_birth))) = (select
min(floor(Year((sysdate() - date_of_birth))))from programmer where language1 =
'Java');
```

full_name	Age
Sita	23

88) Which institute has MOST NUMBER of students?

```
select studied_place,count(studied_place) as count from studies group by
studied_place order by count(studied_place) desc limit 1;
```

studied_place	count(studied_place)
AIT	5

89) Who is the above programmer

```
select full_name from programmer where language1=(SELECT language1
FROM Programmer GROUP BY language1 HAVING language1 NOT IN (SELECT
language2 FROM PROGRAMMER) AND COUNT(language1 )=1);
```

full_name
Ragavan

90) Which female programmer earns MORE than 3000/- but DOES NOT know Ruby Python or C#, Purecript ?

```
select full_name from programmer where salary>50000 and (language1 !='Python' and language1 !='Ruby') and (language2 != 'C#' and language2 != 'Purescript') and sex = 'Female';
```

full_name
Sita

91) Which is the COSTLIEST course?

```
select Course, course_cost from Studies order by Course_cost desc limit 1;
```

Course	course_cost
Python Basics	8000

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

```
Select course from Studies group by course order by count(course) desc;
```

course
J2EE

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

```
select Studied_place, course from studies where course_cost < (Select avg(course_cost) from Studies)
```

Studied_place	course
MIT	Coding Basics
CIT	Basics of OOPS
BIT	Coding Basics
AIT	Coding Basics

94) Which institute conducts COSTLIEST course?

```
select Studied_place, course from studies order by course_cost desc limit 1;
```

Studied_place	course
KIT	Python Basics

95) Which course has below AVERAGE number of students?

1

96) Which institute conducts the above course?

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

```
select course,course_cost from studies where course_cost < (Select
avg(course_cost)+ 1000 from Studies) and course_cost > (Select avg(course_cost)-
1000 from Studies)
```

course
J2EE
Python Basics
DOT-Net Developer
Ruby Developer

98) Which package has the HIGEST development cost?

```
select title from software order by developing_cost desc limit 1;
```

title
Autoupdater

99) Which package has the LOWEST selling cost?

```
select title from software order by selling_cost limit 1;
```

title
Autoupdater

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

```
select title, full_name from software where sold_count = (select
min(sold_count) from software);
```

title	full_name
Parachutes	Varun

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

```
select developed_in from software where selling_cost*sold_count = (select
max(selling_cost*sold_count) from software);
```

developed_in
Java

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

```
select sold_count from Software where selling_cost-developing_cost = (select
max(selling_cost-developing_cost) from software);
```


sold_count
2500

103) Which is the COSTLIEAST package developed in java?

```
select title from software where developing_cost = (select
max(developing_cost) from software where developed_in = 'Java');
```

title
Personal Doc

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

```
select developed_in from software group by developed_in order by count(title)
desc limit 1;
```

developed_in
Java

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

```
select full_name from software group by full_name order by count(title) desc
limit 1;
```

full_name
Rajan

106) Who is the author of the COSTLIEST package?

```
select full_name,title from software where developing_cost = (select
max(developing_cost) from software);
```

full_name	title
Ragavan	Autoupdater

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

```
select title, sold_count from software where sold_count<(select
avg(sold_count) from software);
```

title	sold_count
Parachutes	0
E-commerce	1010
Music Mixer	1400
Story Teller	2500
Health Taker	2000
Smart Home controller	2700

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

```
select full_name from programmer where salary > (select max(salary) from
programmer where sex='male') and sex='female';
```

full_name
Sita

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

```
select distinct language1 from programmer where language1=(select
min(language1) from programmer);
```

language1
Java

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

```
select title from software where (selling_cost*sold_count) - developing_cost >
2 *developing_cost;
```

title
E-commerce
Personal Doc
Music Mixer
Story Teller
Health Taker
Smart Home controller
Mail Organizer
Autoupdater

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

3

112) Who is the YOUNGEST male programmer born in 1999?

```
select full_name from programmer where
datediff(sysdate(),date_of_birth)/365.25 = (select
min(datediff(sysdate(),date_of_birth)/365.25) from programmer where date_of_birth
like '1999_____' and sex='male');
```

full_name
Ram

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

4

114) Who is the OLDEST female programmer WHO joined in 2015?

```
select full_name from programmer where datediff(sysdate(
),date_of_joining)/365.25 = (select
max(datediff(sysdate(),date_of_joining)/365.25) from programmer where
date_of_joining like '2015_____'and sex='Female');
```

full_name
Sita

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

```
select year(Date_of_birth),count(Date_of_birth) from programmer group by
year(Date_of_birth) order by count(Date_of_birth) desc limit 1;
```

year(Date_of_birth)	count(Date_of_birth)
1998	4

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

```
select year(Date_of_joining),count(Date_of_joining) from programmer group
by year(Date_of_joining) order by count(Date_of_joining) desc limit 1;
```

year(Date_of_joining)	count(Date_of_joining)
2020	4

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

```
(select language1 as languages ,count(language1) as count from programmer
group by language1 order by count(language1) desc limit 1)
```

union

```
(select language2,count(language2)from programmer group by language2 order by
count(language2) desc limit 1);
```

languages	count
Java	4
C#	3

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

```
select full_name from programmer where salary < ( select avg(salary) from
programmer where sex='female') and sex ='male';
```

full_name
Varun
Ram
Rajan

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

```
select a.full_name,a.salary from programmer a,programmer b where
a.salary=b.salary and a.full_name != b.full_name
```

full_name	salary
Rajan	50000
Jaanu	50000
Ram	60000
Nithya	60000
Rajan	50000
Varun	50000
Jaanu	50000
Varun	50000

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

select a.title, b.salary from software a,programmer b where b.salary>50000 and b.sex='male' and a.full_name = b.full_name;

title	salary
Music Mixer	60000
Mail Organizer	70000

121) Display details of packages developed in java by female programmers.

select a.full_name,b.title from programmer a,software b where b.developed_in = 'java' and a.sex='Female' and a.full_name=b.full_name;

full_name	title
Sita	Personal Doc

122) Display the details of the programmer WHO joined BEFORE 2019.

select full_name,date_of_joining,date_of_birth,sex ,language1,language2 ,Salary from programmer where Year(date_of_joining)<2019;

full_name	date_of_joining	date_of_birth	sex	language1	language2	Salary
Nithya	2018-09-18	1998-05-11	Female	Python	C++	60000
Sita	2015-06-29	2000-01-02	Female	Java	C	69000
Ajay	2015-04-01	2000-09-22	Male	Python	C#	70000

123) Display details of software developed in C by female programmers of AIT

select distinct
b.full_Name,b.Title,b.Developed_in,b.Selling_cost,b.Developing_cost,b.Sold_Count
from programmer a,software b,studies c where c.studied_place = 'BIT' and
a.sex='Female' and a.full_name=b.full_name and b.full_name=c.full_name

full_Name	Title	Developed_in	Selling_cost	Developing_cost	Sold_Count
Sita	Personal Doc	Java	50000.30	30000	11500

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

select Studied_place,count(title) ,count(developed_in) ,count(sold_count)
,sum(sold_count*selling_cost) from software a, studies b

where a.full_name = b.full_name group by studied_place;

Studied_place	count(title)	count(developed_in)	count(sold_count)	sum(sold_count*selling_cost)
MIT	2	2	2	0.00
CIT	2	2	2	60600000.00
BIT	2	2	2	1150006900.00
VIT	2	2	2	56000560.00
KIT	2	2	2	175000000.00
AIT	5	5	5	388000000.00
KCT	1	1	1	99000000.00

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

Select distinct a.title, a.developed_in, a.developing_cost, a.selling_cost, a.sold_count, a.full_name as developed_by from software a, programmer b, studies c

where a.developed_in="java" and b.sex="Male" and c.studied_place=(select studied_place from studies group by studied_place order by count(full_name) desc limit 1);

title	developed_in	developing_cost	selling_cost	sold_count	developed_by
Health Taker	Java	15000	25000.00	2000	Rajan
Personal Doc	Java	30000	50000.30	11500	Sita
Parachutes	Java	20000	40000.90	0	Varun

126) Display the details of the software that was developed by male programmers born BEFORE 1999 and female programmers born AFTER 1998.

select a.title,a.developed_in,a.full_name as developed_by ,a.developing_cost from software a, programmer b where a.full_name = b.full_name and ((b.sex='female'and year(b.date_of_birth)>1999)or(b.sex='male' and year(b.date_of_birth)<1999));

title	developed_in	developed_by	developing_cost	sold_count
Parachutes	Java	Varun	20000	0
Personal Doc	Java	Sita	30000	11500
Health Taker	Java	Rajan	15000	2000
Smart Home controller	C#	Rajan	20000	2700

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

select a.title,a.developed_in,a.full_name as developed_by ,a.developing_cost ,a.sold_count from software a, programmer b where a.full_name = b.full_name and a.developed_in = b.language2;

title	developed_in	developed_by	developing_cost	sold_count
Music Mixer	C#	Ram	10000	1400
Smart Home controller	C#	Rajan	20000	2700

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

```
select a.title,a.developed_in,a.full_name as developed_by ,a.developing_cost
,a.sold_count from software a, programmer b where a.full_name = b.full_name and
a.developed_in != b.language2 and a.developed_in!=b.language1;
```

title	developed_in	developed_by	developing_cost	sold_count
-------	--------------	--------------	-----------------	------------

129) Display details of software developed by male students of AIT

```
select a.title,a.developed_in,a.full_name as developed_by ,a.developing_cost
,a.sold_count from software a, studies b , programmer c where a.full_name =
b.full_name and b.full_name=c.full_name and c.sex="male" and
studied_place="AIT";
```

title	developed_in	developed_by	developing_cost	sold_count
Smart Home controller	C#	Rajan	20000	2700
Health Taker	Java	Rajan	15000	2000
Smart Home controller	C#	Rajan	20000	2700
Health Taker	Java	Rajan	15000	2000
Mail Organizer	Python	Ajay	5000	9900

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

```
select distinct a.full_name ,a.salary ,a.language1 ,a.language2 from
programmer a, software b where a.full_name not in (select full_name from software);
```

full_name	salary	language1	language2
Thilak	50000	Python	C#

131) What is the total cost of the software developed by the programmers by AIT ?

```
select sum(a.developing_cost) from software a, studies b where
b.studied_place = "AIT";
```

sum(a.developing_cost)
375000

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

```
select a.full_name from programmer a, programmer b where
day(a.date_of_joining) = day(b.date_of_joining) and a.full_name != b.full_name;
```

full_name
Thilak
Ram
Thilak
Varun
Ajay
Rajan
Ram
Varun

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

select a.full_name , a.language2 from programmer a, programmer b where
a.language2 = b.language2 and a.full_name != b.full_name;

full_name	language2
Sita	C
Varun	C
Thilak	C#
Ajay	C#
Rajan	C#
Jaanu	C#
Thilak	C#
Ajay	C#
Rajan	C#
Ram	C#
Thilak	C#
Ajay	C#
Jaanu	C#
Ram	C#
Thilak	C#
Rajan	C#
Jaanu	C#
Ram	C#
Ajay	C#
Rajan	C#
Jaanu	C#
Ram	C#

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

select b.studied_place , sum(sold_count*selling_cost) from software a, studies
b group by b.studied_place;

studied_place	sum(sold_count*selling_cost)
MIT	1928607460.00
CIT	1928607460.00
BIT	1928607460.00
VIT	1928607460.00
KIT	1928607460.00
AIT	2892911190.00
KCT	964303730.00

135) In which institutes did the person who developed the COSTLIENT package study?

select distinct studied_place from studies where full_name = (select
full_name from software where selling_cost = (select max(developing_cost) from
software));

studied_place
CIT

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

select language1 as languages from programmer where language1 not in(select developed_in from software)

union

select language2 from programmer where language2 not in(select developed_in from software);

languages
C
C++

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

select a.Salary,b.course from programmer a,studies b where b.full_name =(select full_name from software where selling_cost = (Select max(selling_cost) from software)) and a.full_name =(select full_name from software where selling_cost = (Select max(selling_cost) from software));

Salary	course
69000	Coding Basics
69000	J2EE

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

select p.full_name,ceil(s.course_cost/p.salary) from programmer p,studies s where s.full_name=p.full_name;

full_name	ceil(s.course_cost/p.salary)
Varun	1
Varun	1
Nithya	1
Nithya	1
Sita	1
Sita	1
Ram	1
Ram	1
Jaanu	1
Jaanu	1
Rajan	1
Rajan	1
Ajay	1
Ajay	1

139) Which is the COSTLIEST package developed by a person with not more than 3 years' experience?

select title from software where developing_cost=(select max(developing_cost)from software where full_name in (select full_name from programmer where (year(sysdate())-year(date_of_joining))<=3));

title
Autoupdater

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

```
select avg(a.salary) as Average_Salary from programmer a,software b where (b.sold_count*b.selling_cost)>50000;
```

Average_Salary
61750.0000

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

```
select count(title) from software where full_name in (select full_name from studies where course_cost=(select min(course_cost) from studies))
```

count(title)
2

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

```
select count(title) from software where full_name = (select full_name from software where developing_cost = (select min(developing_cost)from software))
```

count(title)
1

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

```
select count(a.title) from software a, programmer b where b.salary>(select max(salary)from programmer where sex ="male")and b.sex ="female" and a.full_name=b.full_name;
```

count(a.title)
1

144) How many packages were developed by the MOST experienced programmers from AIT?

5

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

```
select full_name,studied_place from studies where full_name not in (select full_name from software);
```

full_name	studied_place
Ajay	KCT
Ajay	AIT

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

select count(*), sum((selling_cost*sold_count) - Developing_cost) as profit
from software

where developed_in in (select language1 from programmer) group by developed_in;

count(*)	profit
3	680899709.10
3	216770000.00
1	9850000.00

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

select a.full_name , count(b.title) from programmer a,software b where
a.full_name = b.full_name group by a.full_name

full_name	count(b.title)
Varun	1
Nithya	1
Sita	1
Ram	1
Jaanu	1
Rajan	2
Ajay	1
Ragavan	1

148) List all the details of programmers who have done a course at AIT

select distinct a.*,b.studied_place from programmer a,studies b where
studied_place="AIT" and a.full_name=b.full_name

Programmer_id	Full_Name	Date_of_birth	Date_of_joining	Sex	Language1	Language2	Salary	studied_place
6	Rajan	1995-09-22	2020-04-01	Male	Java	C#	50000	AIT
7	Ajay	2000-09-22	2015-04-01	Male	Python	C#	70000	AIT
8	Ragavan	1998-04-22	2020-02-29	Male	Ruby	Purecript	75000	AIT