**ASSIGNMENT 2**

1. **CREATE the following EMP table:**

**ENAME DEPT-NAME DESIGNATION SALARY DATE-OF-JOIN  
KARAN ACCOUNTING DIRECTOR 50000 Nov 17, 2012  
FARAH RESEARCH ANALYST 30000 Dec 03, 1991  
SCINDIA RESEARCH ANALYST 30000 Dec 09, 2002  
JOY RESEARCH MANAGER 29750 Apr 02, 2011  
BHASKAR SALES MANAGER 28500 May 01, 1999  
CHANDER ACCOUNTING MANAGER 24500 Jun 09, 2000  
ANIL SALES SALESMAN 16000 Feb 20, 1991  
TOMAR SALES SALESMAN 15000 Sep 08, 2001  
MILIND ACCOUNTING CLERK 13000 Jan 23, 2002  
SAXENA SALES SALESMAN 12500 Sep 28, 1999  
TOMAR SALES SALESMAN 14500 Feb 22, 1997  
ANAND RESEARCH CLERK 11000 Jan 12, 1993  
GEORGE SALES CLERK 9500 Dec 03, 1990  
SURESH RESEARCH CLERK 8000 Dec 17, 1992**

**Create table Empl1**

**(**

**ENAME varchar2(10),DEPT\_NAME varchar2(10),DESIGNATION varchar2(10),SALARY NUMBER(10),DATE\_OF\_JOIN date**

**);**

**Insert into Empl1 values('KARAN','ACCOUNTING','DIRECTOR',50000,'17-Nov-12');**

**Insert into Empl1 values('FARAH','RESEARCH','ANALYST',30000,'03-Dec-91');**

**Insert into Empl1 values('SCINDIA','RESEARCH','ANALYST',30000,'09-Dec-12');**

**Insert into Empl1 values('JOY','RESEARCH','MANAGER',29750,'02-Apr-11');**

**Insert into Empl1 values('BHASKAR','SALES','MANAGER',28500,'01-May-99');**

**Insert into Empl1 values('CHANDER','ACCOUNTING','MANAGER',24500,'09-June-00');**

**Insert into Empl1 values('ANIL','SALES','SALESMAN',16000,'20-Feb-91');**

**Insert into Empl1 values('TOMAR','SALES','SALESMAN',15000,'08-Sep-01');**

**Insert into Empl1 values('MILIND','ACCOUNTING','CLERK',13000,'23-Jan-02');**

**Insert into Empl1 values('SAXENA','SALES','SALESMAN',12500,'28-Sep-99');**

**Insert into Empl1 values('TOMAR','SALES','SALESMAN',14500,'22-Feb-97');**

**Insert into Empl1 values('ANAND','RESEARCH','CLERK',11000,'12-Jan-93');**

**Insert into Empl1 values('GEORGE','SALES','CLERK',9500,'03-Dec-90');**

**Insert into Empl1 values('SURESH','RESEARCH','CLERK',8000,'17-Dec-92');**

**Solve the following query using above database :**

1. **Find all the ENAME’s whose salary is < Rs.20000.**

**Select ename from empl1 where salary<20000;**

1. **Find all the employees working with SALES Department and with designation MANAGER.**

**Select \* from Empl1 where dept\_name=’SALES’ and designation=’MANAGER’;**

1. **Find all employees whose name starts with S.**

**Select \* from Empl1 where ename like ‘S%’;**

1. **Find total number of employees who work with RESEARCH department.**

**Select count(\*) from Empl1 where dept\_name=’RESEARCH’;**

1. **Find all the employees who joined after Jan 1, 2010.**

**Select \* from Empl1 where date\_of\_join>’01-Jan-10’;**

1. **Count number of employees whose salary is between Rs.8000 and Rs.12500.**

**Select count(Ename) from empl1 where salary between 8000 and 12500;**

1. **Sort the supplier table by ENAME.**

**Select \* from Empl1 order by ename;**

1. **Find the employees whose designation is SALESMAN and joined after 1st Aug, 1990.**

**Select \* from Empl1 where designation=”SALESMAN” and date\_of\_join>’01-Aug-90’;**

1. **Find all the employees whose designation is CLERK.**

**Select \* from Empl1 where designation=’CLERK’;**

1. **Count number of SALESMAN in SALES department.**

**Select Count(Ename) “Count\_of\_salesman” from Empl1 where designation =’SALESMAN’ and dept\_name=’SALES’;**

1. **Count all the number of employees who are working with the company.**

**Select Count(ename) “Count\_emp” from Empl1 ;**

1. **Find the employees joined between 1st Jan, 1997 and 31st Dec, 2010.**

**Select \* from Empl1 where date\_of\_join between ’01-Jan-97’ and ’31-Dec-10’;**

1. **Sort the table by the SALARY, descending order.**

**Select \* from Empl1 order by salary DESC;**

Q3:**Table 1 : STUDIES**

**PNAME (VARCHAR), SPLACE (VARCHAR), COURSE (VARCHAR), CCOST (NUMBER))**

**Create table Studies (PNAME VARCHAR2(10),SPLACE VARCHAR2(10),COURSE VARCHAR2(10), COST NUMBER(6) ,**

**FOREIGN KEY(PNAME) REFERENCES PROGRAMMER(PNAME)**

**);**

**Table 2 : SOFTWARE**

**PNAME (VARCHAR), TITLE (VARCHAR), DEVIN (VARCHAR), SCOST (NUMBER), DCOST (NUMBER), SOLD (NUMBER)**

**Table 3 : PROGRAMMER**

**PNAME (VARCHAR), DOB (DATE), DOJ (DATE), SEX (CHAR), PROF1 (VARCHAR), PROF2 (VARCHAR), SAL (NUMBER)**

**Create table Programmer(**

**PNAME VARCHAR(10) PRIMARY KEY, DOB DATE, DOJ DATE, SEX CHAR(1), PROF1 VARCHAR2(10), PROF2 VARCHAR2(10), SAL NUMBER(7)**

**);**

**PNAME – Programmer Name, SPLACE – Study Place, CCOST – Course Cost, DEVIN – Developed in, SCOST – Software Cost, DCOST – Development Cost, PROF1 – Proficiency 1**

**insert into studies values('Rakesh','Pentafour','PGDCA',12000);**

**insert into studies values('Mariam','PRAGATHI','DCA','16000);**

**insert into studies values('Vaishali','UP','MCA',14000);**

**insert into studies values('Ankit','Rajasthan','Pharma',18000);**

**insert into studies values('Sumit','Delhi','MBA',22000);**

**insert into software values('Rakesh','Oracle',7000,4000,2);**

**insert into software values('Mariam','C',2500,5000,3);**

**insert into software values('Vaishali','VB',6500,3500,2);**

**insert into software values('Ankit','Oracle',3000,7000,3);**

**insert into software values('Sumit','Java',3200,6500,2);**

**insert into programmer values('Rakesh','03-Apr-96','10-Nov-14','M','C','Oracle',6000);**

**insert into programmer values('Mariam','30-Aug-97','02-Jan-18','F','Pascal','C',7000);**

**insert into programmer values('Vaishali','18-Feb-95','24-Sep-16','F','VB','Pascal,7500);**

**insert into programmer values('Ankit','10-Dec-93','13-Jan-13','M','VB','Oracle,14000);**

**insert into programmer values('Sumit','06-Aug-98','19-Mar-15','M','C++','Java,18000);**

Solve the following queries using above databases:

1. Find out the selling cost average for packages developed in Oracle.

Select AVG(SCOST) from Software where DEVIN=’Oracle’;

Select ROUND(AVG(SCOST)) from Software where DEVIN=’Oracle’;

1. Display the names, ages and experience of all programmers.

Select pname, trunc((sysdate-DOB)/365.25) “Age”, trunc((sysdate-DOJ)/365.25) “Experience” from programmer;

1. Display the names of those who have done the PGDCA course.

Select pname from studies where course=’PGDCA’;

1. What is the highest number of copies sold by a package?

Select max(sold) from software;

1. Display the names and date of birth of all programmers born in April.

Select pname from PROGRAMMER where dob like ‘%APR%’;

Select pname from PROGRAMMER where to\_char(DOB,’mm’)=04;

1. Display the lowest course fee.

Select min(ccost) “Lowest\_course\_fee” from studies;

1. How many programmers have done the DCA course.

Select pname from studies where Course=’DCA’;

1. How much revenue has been earned through the sale of packages developed in C.

Select SUM(SOLD\*SCOST)“REVENUE\_in\_C” from software where DEVIN=’C’;

1. Display the details of software developed by Rakesh.

Select \* from software where pname=’Rakesh’;

1. How many programmers studied at Pentafour.

Select Count(\*) “Programmers\_Pentafour” from studies where splace=’Pentafour’;

1. Display the details of packages whose sales crossed the 5000 mark.

Select \* from software where (SOLD\*SCOST)>5000;

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

Select Title,round(dcost/scost) “Copies” from software where (scost\*sold)>dcost;

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

Select \* from software where (sold\*scost)>=dcost;

1. What is the price of costliest software developed in VB?

Select max(SCOST) from software where DEVIN=’VB’;

1. How many packages were developed in Oracle ?

Select count(\*) “Oracle\_Package” from Software where Devin=’Oracle’;

1. How many programmers studied at PRAGATHI?

Select Count(\*) “Programmers\_Pragathi” from Studies where SPLACE=’PRAGATHI’;

1. How many programmers paid 10000 to 15000 for the course?

Select Count(pname) from studies where CCOST between 10000 and 15000;

1. What is the average course fee?

Select avg(CCOST) from Studies;

1. Display the details of programmers knowing C.

Select \* from Programmer where Prof1=’C’ or Prof2=’C’;

1. How many programmers know either C or Pascal?

Select Count(\*) from Programmer where Prof1 IN(‘C’,’Pascal’) or Prof2 IN(‘C’,’Pascal’);

1. How many programmers don’t know C and C++?

Select Count(\*) from Programmer where Prof1 NOT IN(‘C’,’C++’) and Prof2 NOT IN(‘C’,’C++’);

1. How old is the oldest male programmer?

Select max(trunc((sysdate-DOB)/365.25)) from Programmer where SEX=’M’;

1. What is the average age of female programmers?

Select avg(trunc((sysdate-DOB)/365.25)) from Programmer where SEX=’F’;

1. Calculate the experience in years for each programmer and display along with their names in descending order.

Select pname,trunc((sysdate-DOJ)/365.25) “Experience” from Programmer order by trunc((sysdate-DOJ)/365.25);

1. Who are the programmers who celebrate their birthdays during the current month?

Select pname from Programmer where to\_char(SYSDATE,’mm’)= to\_char(DOB,’mm’);

1. How many female programmers are there?

Select Count(\*) from Programmer where SEX=’F’;

1. 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’;

1. What is the average salary?

Select max(SAL) from Programmer;

1. How many people draw 5000 to 7500?

Select Count(\*) from Programmer where SAL BETWEEN 5000 and 7500;

1. Display the details of those who don’t know C, C++ or Pascal.

Select \* from Programmer where Prof1 NOT IN(‘C’,’C++’,’Pascal’) and Prof2 NOT IN(‘C’,’C++’,’Pascal’);

1. Display the costliest package developed by each programmer.

Select PNAME,max(SCOST) from Software GROUP BY PNAME;

1. Produce the following output for all the male programmers

Programmer

Mr. Arvind – has 15 years of experience

Select concat('Miss ',concat (Pname,concat(' has ',concat(trunc((sysdate-DOJ)/365.25),' years of Experience')))) "Experience" from Programmer where SEX='F' UNION Select concat('Mr ',concat (Pname,concat(' has ',concat(trunc((sysdate-DOJ)/365.25),' years of Experience')))) "Experience" from Programmer where SEX='M' ;

Select concat “miss” ||(Pname,concat(' has ',concat(trunc((sysdate-DOJ)/365.25),' years of Experience')))) "Experience" from Programmer where SEX='F' UNION Select concat('Mr ',concat (Pname,concat(' has ',concat(trunc((sysdate-DOJ)/365.25),' years of Experience')))) "Experience" from Programmer where SEX='M' ;

Select ‘miss’ || pname

Select LPAD(Pname,8,’Mr ’) from programmers where sex=’M’;

Q4: SCHEMA :

Table 1 : DEPT

DEPTNO (NOT NULL , NUMBER(2)), DNAME (VARCHAR2(14)),

LOC (VARCHAR2(13)

Create Table Dept2(

DEPTNO NUMBER(2) PRIMARY KEY, DNAME VARCHAR2(14),LOC VARCHAR2(13)

);

Table 2 : EMP

EMPNO (NOT NULL , NUMBER(4)), ENAME (VARCHAR2(10)),

JOB (VARCHAR2(9)), MGR (NUMBER(4)), HIREDATE (DATE),

SAL (NUMBER(7,2)), COMM (NUMBER(7,2)), DEPTNO (NUMBER(2))

MGR is the empno of the employee whom the employee reports to. DEPTNO is a foreign

Create table Emp2(

EmpNo Number(4) NOT NULL,Ename Varchar2(10), Job Varchar2(9), MGR Number(4), Hiredate date, Sal Number(7,2), Comm Number(7,2), DeptNo Number(2),

FOREIGN KEY(DeptNo) REFERENCES Dept2(DeptNo)

);

Solve the following queries using above databases:

1. List all the employees who have at least one person reporting to them.

Select ename from emp2 where empno IN(Select mgr from emp2 where mgr is not null);

//select ename from emp2 a where (select mgr from emp2 where a.mgr=empno);

//Select mgr,count(\*) from Emp2 group by MGR having Count(mgr)>=1;

1. List the employee details if and only if more than 10 employees are present in department no 10.

Select \* from Dept2 where deptno=’10’ Group by DeptNo Having COUNT(Dname)>10;

1. List the name of the employees with their immediate higher authority.

select ename,(Select ename from emp2 f where e.mgr=f.empno)"Manager" from emp2 e;

//Select emp2.Ename,(Select emp2.ename from emp2 where emp2.deptno=emp2.mgr) from Emp2,dept2 where dept2.deptno=emp2.deptno;

1. List all the employees who do not manage any one.

select \* from emp2 where empno NOT IN(select mgr from emp2 where mgr is not null);

1. List the employee details whose salary is greater than the lowest salary of an employee belonging to deptno 20.

Select \* from EMP2 where sal>(select min(sal) from EMP2 group by deptno having deptno=’20’);

1. List the details of the employee earning more than the highest paid manager.

Select \* from EMP2 where sal>(select max(sal) from EMP2 where job=’Manager’);

1. List the highest salary paid for each job.

Select job,max(sal) from EMP2 group by job;

1. Find the most recently hired employee in each department.

Select ename,min(trunc((sysdate-Hiredate)/365.25))”Experience” from emp2 group by deptno,ename;

1. In which year did most people join the company? Display the year and the number of employees.

Select to\_char(HIREDATE,’yyyy’) from emp2 where rownum<=1 group by to\_char(HIREDATE,’yyyy’) order by count(\*);

Select extract(year from hiredate)"YEAR" from emp2 where rownum=1 group by extract(year from hiredate) order by count(\*);

Select max(count(\*)) from emp2 group by to\_char(HIREDATE,’yyyy’) ;

Select to\_char(HIREDATE,’yyyy’)"YEAR", count(\*) "Employees" from emp2 group by to\_char(HIREDATE,’yyyy’) ;

1. Which department has the highest annual remuneration bill?

SELECT deptno,MAX(Sal+(Sal\*(Comm/100)))”Remuneration Bill” from Emp2 group by deptno;

1. Write a query to display a ‘\*’ against the row of the most recently hired employee.

select lpad(Empno,3,'\*')"Empno",ename,job,mgr,hiredate,sal,comm,deptno from emp2 where hiredate=(Select max(hiredate) from emp2) union select Lpad(Empno,3,' ') "Empno",ename,job,mgr,hiredate,sal,comm,deptno from emp2 where hiredate<(Select max(hiredate) from emp2);

//select concat(‘\*’,concat(EmpNo,concat(Ename,concat(Job,concat(MGR,concat(Hiredate,concat(Sal,concat(Comm,DeptNo)))))))) from dept2 where hiredate=min(trunc((sysdate-Hiredate)/365.25));

1. Write a correlated sub-query to list out the employees who earn more than the average salary of their department.

select ename,sal,deptno from emp2 e where sal>(Select avg(sal) from emp2 f where e.deptno=f.deptno);

1. Find the nth maximum salary.

SELECT MAX(Sal+(Sal\*(Comm/100)))”Maximum Salary” from Emp2;

1. Select the duplicate records (Records, which are inserted, that already exist) in the EMP table.

Select EmpNo,Ename,count(\*) from emp2 group by empno,ename having Count(\*)>1;

1. Write a query to list the length of service of the employees (of the form n years and m months).

Select ename,trunc((sysdate-hiredate)/365.25) "Year", trunc(mod(months\_between(sysdate,HIREDATE),12))"Month" from emp2;

//Select to\_char(SYSDATE-HIREDATE,’mm-yyyy’) from emp2;

Q5: **Create the following Databases.**

**TABLE NAME:Salesmen**

**SNUM SNAME CITY COMMISSION**

-------------------------------------------------------

1001 Piyush London 12 %

1002 SejalSurat 13 %

1004 Miti London 11 %

1007 Rajesh Baroda 15 %

1003 Anand New Delhi 10 %

SNUM : A unique number assigned to each salesman.

SNAME : The name of salesman.

CITY : The location of salesmen.

COMMISSION: The Salemen's commission on orders.

**Create table Salesman(**

**SNUM Number(4), SNAME VARCHAR2(5),CITY VARCHAR2(9),COMMISSION Number(2) );**

TABLE NAME: Customers

CNUM CNAME CITY RATING SNUM

-------------------------------------------------------

2001 Harsh London 100 1001

2002 Gita Rome 200 1003

2003 Lalit Surat 200 1002

2004 Govind Bombay 300 1002

2006 Chirag London 100 1001

2008 ChinmaySurat 300 1007

2007 Pratik Rome 100 1004

Create table Customers(

CNum Number(4), CName varchar2(7), City Varchar2(6),Rating Number(4),SNum Number(4)

);

Insert into Customers values(2001,'Harsh','London',100,1001);

Insert into Customers values(2002,'Gita','Rome',200,1003);

Insert into Customers values(2003,'Lalit','Surat',200,1002);

Insert into Customers values(2004,'Govind','Bombay',300,1002);

Insert into Customers values(2006,'Chirag','London',100,1001);

Insert into Customers values(2008,'Chinmay','Surat',300,1007);

Insert into Customers values(2007,'Pratik','Rome',100,1004);

CNUM : A unique number assigned to each customer.

CNAME : The name of the customer.

CITY : The location of the customer.

RATING : A level of preference indicator given to this customer.

SNUM : The number of salesman assigned to this customer.

TABLE NAME:Orders

ONUM AMOUNT ODATE CNUM SNUM

-------------------------------------------------------

3001 18.69 10/03/97 2008 1007

3003 767.19 10/03/97 2001 1001

3005 5160.45 10/03/97 2003 1002

3006 1098.16 10/03/97 2008 1007

3009 1713.23 10/04/97 2002 1003

3007 75.75 10/04/97 2004 1002

3008 4723.00 10/05/97 2006 1001

3010 1309.95 10/06/97 2004 1002

3011 9891.88 10/06/97 2006 1001

ONUM : A unique number assigned to each order.

AMOUNT : The amount of an order.

ODATE : The date of an order.

CNUM : The number of customer making the order.

SNUM : The number of salesman credited with the sale.

Create table orders(

ONum Number(4), Amount Number(6,2),ODate date, CNum Number(4),SNum Number(4)

);

**Insert into Orders values(3001,0018.69,'03-Oct-97',2008,1007);**

**Insert into Orders values(3003,0767.19,'03-Oct-97',2001,1001);**

**Insert into Orders values(3005,5160.45,'03-Oct-97',2003,1002);**

**Insert into Orders values(3006,1098.16,'03-Oct-97',2008,1007);**

**Insert into Orders values(3009,1713.23,'04-Oct-97',2002,1003);**

**Insert into Orders values(3007,0075.75,'04-Oct-97',2004,1002);**

**Insert into Orders values(3008,4723.00,'05-Oct-97',2006,1001);**

**Insert into Orders values(3010,1309.95,'06-Oct-97',2004,1002);**

**Insert into Orders values(3011,9891.88,'06-Oct-97',2006,1001);**

Solve the following queries using above databases and group by clause.

* 1. Find out the largest orders of salesman 1002 and 1007.

**select snum,max(amount) from orders group by snum having snum=1002 or snum=1007;**

* 1. Count all orders of October 3, 1997.

**select count(\*) from orders where odate='03-Oct-97';**

* 1. Calculate the total amount ordered.

**select sum(amount)"Total" from orders;**

* 1. Calculate the average amount ordered.

**select avg(amount)"Average" from orders;**

* 1. Count the no. of salesmen currently having orders.

**select count(distinct(snum)) from orders;**

* 1. Find the largest order taken by each salesman on each date.

**select snum,odate,max(amount) from orders group by odate,snum order by odate;**

* 1. Find the largest order taken by each salesman on 10/03/1997.

**select snum,max(amount) from orders where odate='03-Oct-97' group by snum;**

* 1. Count the no. of different non NULL cities in the Customer table.

**select count(distinct(city)) from customers where city is not null;**

* 1. Find out each customer's smallest order.

**select cnum,min(amount) "Minimum\_Amount" from orders group by cnum;**

* 1. Find out the first customer in alphabetical order whose name begins with 'G'.

**select cname from customers where cname like 'G%' and rownum<=1 order by cname;**

* 1. Count the no. of salesmen registering orders for each day.

**select odate,count(\*) “No\_of\_salesman” from orders group by odate;**