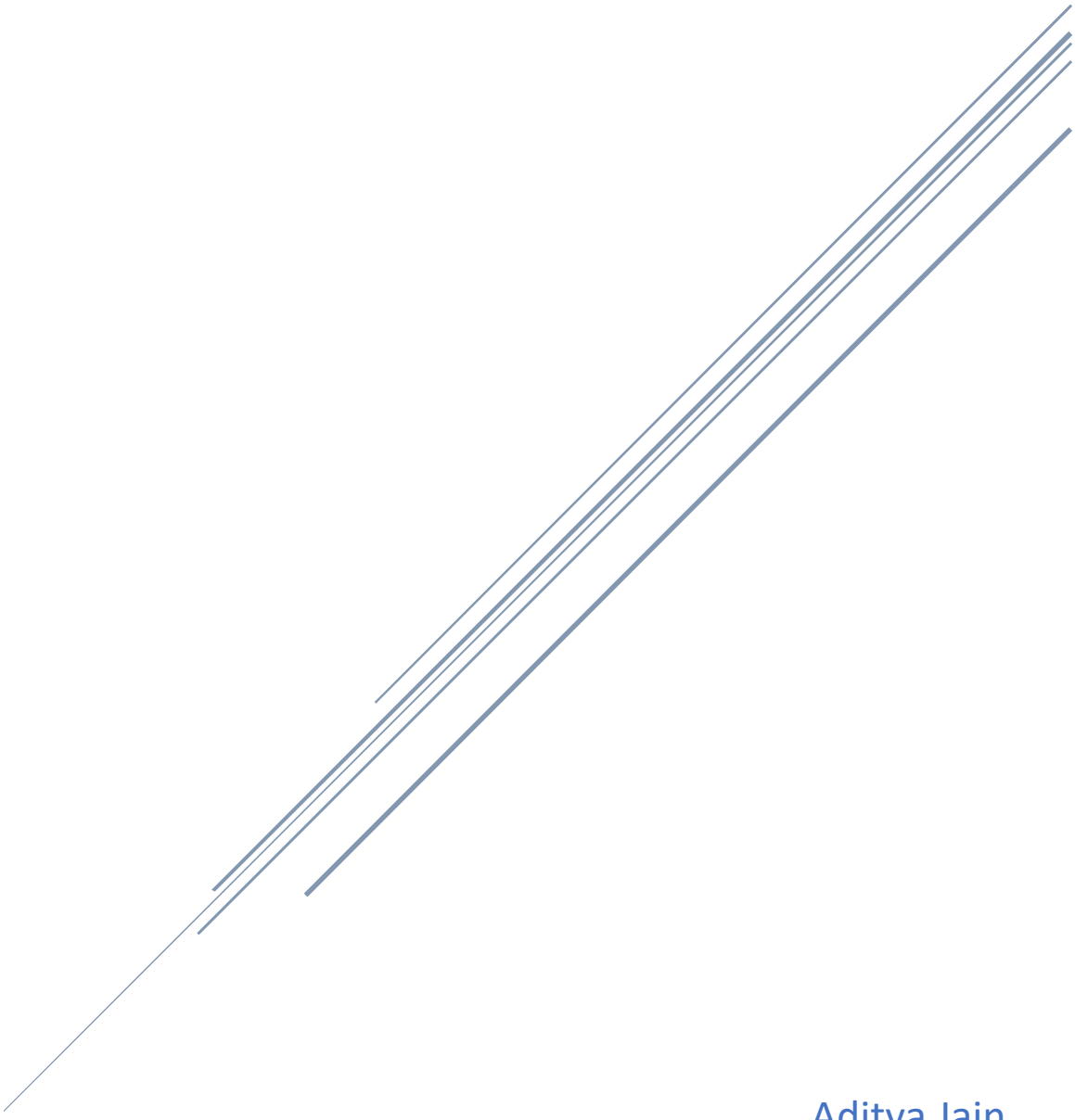
CSE-2007 ASSIGNMENT

Exercise-4



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Q1. How many different departments are there in the 'employee' table

1. select count(distinct(DEPARTMENTNUMBER)) from employee;

```
SQL> select count(distinct(DEPARTMENTNUMBER)) from employee;

COUNT(DISTINCT(DEPARTMENTNUMBER))
---------------------------------
                                5
```

Q2. For each department display the minimum and maximum employee salaries

2. Since nothing has been mentioned whether we want department number or department name along with minimum and maximum salaries

   To see the department number along with min and max salary

   select departmentnumber,min(salary),max(salary) from employee natural join department group by departmentnumber;

```
SQL> select departmentnumber,min(salary),max(salary) from employee natural join department group by departmentnumber;

DEPARTMENTNUMBER MIN(SALARY) MAX(SALARY)
---------------- ----------- -----------
               1       55000       58000
               2       70000       70000
               5       25000       40000
               4       25000       43000
               3       80000       80000
```

   To see the department names along with min and max salary

   select departmentname,max(salary),min(salary) from employee natural join department group by departmentnumber,departmentname;

```
SQL> select departmentname,max(salary),min(salary) from employee natural join department group by departmentnumber,departmentname;

DEPARTMENTNAME  MAX(SALARY) MIN(SALARY)
-------------- ----------- -----------
Research              40000       25000
Manufacture           58000       55000
Headquarter           80000       80000
Administration        70000       70000
Finance               43000       25000
```

Q3. Print the average annual salary

3. select avg(salary) from employee;

```
SQL> select avg(salary) from employee;

AVG(SALARY)
-----------
 44454.5455
```

Q4. Count the number of employees over 30 age.

4. select count(ssn) from employee where ((sysdate-birthday)/365)>30;

```
SQL> select count(ssn) from employee where ((sysdate-birthday)/365)>30;

COUNT(SSN)
----------
        11
```

Q5. Print the Department name and average salary of each department.

5. select departmentname,avg(salary) from employee natural join department group by departmentname,departmentnumber;

```
SQL> select departmentname,avg(salary) from employee natural join department group by departmentname,departmentnumber;

DEPARTMENTNAME  AVG(SALARY)
-------------- -----------
Headquarter          80000
Administration       70000
Finance              31000
Manufacture          56500
Research             33250
```

Q6. Display the department name which contains more than 30 employees

6. select departmentname from employee natural join department group by departmentnumber,departmentname having count(ssn)>30;

```
SQL> select departmentname from employee natural join department group by departmentnumber,departmentname having count(ssn)>30;

no rows selected
```

Since there are no departments who have more than 30 employees so we get no output to just show that the query is correct I am going to display the department names where number of employees are greater than 2

To display the department names which contains more than 2 employees

select departmentname from employee natural join department group by departmentnumber,departmentname having count(ssn)>2;

```
SQL> select departmentname from employee natural join department group by departmentnumber,departmentname having count(ssn)>2;

DEPARTMENTNAME
--------------
Research
Finance
```

Q7. Calculate the average salary of employees by department and age

7. select departmentnumber,ceil((sysdate-birthday)/365),avg(salary) from employee group by departmentnumber,((sysdate-birthday)/365);

```
SQL> select departmentnumber,ceil((sysdate-birthday)/365),avg(salary) from employee group by departmentnumber,((sysdate-birthday)/365);

DEPARTMENTNUMBER CEIL((SYSDATE-BIRTHDAY)/365) AVG(SALARY)
---------------- --------------------------- -----------
              2                          42       70000
              1                          92       55000
              1                          77       58000
              5                          67       38000
              4                          61       25000
              3                          59       80000
              5                          57       25000
              5                          74       40000
              5                          65       30000
              4                          88       43000
              4                          60       25000

11 rows selected.
```

Q8. Count separately the number of employees in the finance and research department

8. select departmentname,count(ssn) from employee natural join department where departmentname in ('Finance','Research') group by departmentnumber,departmentname;

```
SQL> select departmentname,count(ssn) from employee natural join department where departmentname in ('Finance','Research') group by departmentnumber,departmentname;

DEPARTMENTNAME  COUNT(SSN)
-------------- ----------
Research                4
Finance                 3
```

Q9. List out the employees based on their seniority

9. Since there is no column in the employee table which had join date in it so I have added one column in the employee table and added some values in it
   These are the values that I have added

```
SQL> select ssn,firstname,midname,lastname,to_char(joindate,'DD-MON-YYYY') from employee;

SSN       FIRSTNAME       MI LASTNAME        TO_CHAR(JOINDATE,'DD
--------- --------------- -- --------------- --------------------
554433221 Doug            E  Gilbert         20-JAN-2002
543216789 Joyce              PAN             18-MAR-2004
333445555 Frankin         T  Wong            19-OCT-2003
987654321 Jennifer        S  Wallace         24-DEC-1998
123456789 John            B  Smith           15-JUL-2007
666884444 Ramesh          K  Narayan         22-OCT-2005
453453453 Joyce           A  English         25-FEB-2006
888665555 James           E  Borg            17-JUL-2001
999887777 Alicia          J  Zelaya          21-MAY-2008
987987987 Ahmad           V  Jabbar          05-APR-2009
943775543 Robert          F  Scott           08-AUG-2011

11 rows selected.
```

Then on displaying them on the basis of seniority we have

select ssn,firstname,midname,lastname from employee order by ((sysdate-joindate)/365) desc;

```
SQL> select ssn,firstname,midname,lastname from employee order by ((sysdate-joindate)/365) desc;

SSN       FIRSTNAME       MI LASTNAME
--------- --------------- -- ---------------
987654321 Jennifer        S  Wallace
888665555 James           E  Borg
554433221 Doug            E  Gilbert
333445555 Frankin         T  Wong
543216789 Joyce              PAN
666884444 Ramesh          K  Narayan
453453453 Joyce           A  English
123456789 John            B  Smith
999887777 Alicia          J  Zelaya
987987987 Ahmad           V  Jabbar
943775543 Robert          F  Scott
```

Q10. List out the employees who works in ‘manufacture’ department group by first name

10. select firstname,midname,lastname from employee natural join department where firstname in (select firstname from employee natural join department where departmentname='Manufacture' group by firstname);

```
SQL> select firstname,midname,lastname from employee natural join department where firstname in (select firstname from employee
natural join department where departmentname='Manufacture' group by firstname);

FIRSTNAME       MI LASTNAME
--------------- -- ---------------
Robert          F  Scott
James           E  Borg
```