Assignment 1

1. **Write a query to create a table employee with empno, ename, designation and salary.**

```
SQL> create table employee(empno number(10), ename varchar2(10), designation varchar2(10), salary number(8,2));

Table created.
```

2. **Write a query to display the column name and data type of the table employee.**

```
SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------
 EMPNO                                               NUMBER(10)
 ENAME                                               VARCHAR2(10)
 DESIGNATION                                         VARCHAR2(10)
 SALARY                                              NUMBER(8,2)
```

3. **Write a query to create a table from an existing table with all the fields.**

```
SQL> create table employee_cop as select * from employee;

Table created.
```

4. **Write a query to create table from an existing table with selected fields.**

```
SQL> create table employee_copy as select empno,salary from employee;

Table created.
```

5. **Write a query to create a new table from an existing table without any record.**

```
SQL> create table employee_copy1 as select * from employee where 1=2;

Table created.
```

6. **Write a query to Alter the column empno number(4) to empno number(6).**

```
SQL> alter table employee modify empno number(6);

Table altered.
```

7. **Write a query to Alter the table employee with multiple columns (empno, ename).**

```
SQL> alter table employee modify (empno number(10),ename varchar2(15));

Table altered.
```

8. **Write a query to add a new column in employee table.**

```
SQL> alter table employee add DOJ date;

Table altered.
```

9. **Write a query to add multiple columns in employee table.**

```
SQL> alter table employee add (DOB date,age number(2));

Table altered.
```

10. **Write a query to drop a column from an existing table employee.**

```
SQL> alter table x.emplo drop column empno;

Table altered.
```

11. **Write a query to drop multiple columns from the employee table.**

```
SQL> alter table x.emplo drop (ename,AGE);

Table altered.
```

12. **Write a query to rename table employee to emp.**

```
SQL> RENAME employee To emp_loyee;

Table renamed.
```

Final Table after all operations:

```
SQL> desc emp_loyee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------
 DESIGNATION                                        VARCHAR2(10)
 SALARY                                             NUMBER(8,2)
 DOJ                                                DATE
 DOB                                                DATE
```

1. Create a table employee with attributes emp_id, f_name, l_name, job_type, salary, dept, commission, manager_id.

```
SQL> create table employee(emp_id number(10),f_name varchar(10),l_name
varchar(10),job_type varchar(10),salary number(10),dept varchar(10),commission
number(10),manager_id number(10));

Table created.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMP_ID                                             NUMBER(10)
 F_NAME                                             VARCHAR2(10)
 L_NAME                                             VARCHAR2(10)
 JOB_TYPE                                           VARCHAR2(10)
 SALARY                                             NUMBER(10)
 DEPT                                               VARCHAR2(10)
 COMMISSION                                         NUMBER(10)
 MANAGER_ID                                         NUMBER(10)
```

2. Make emp_id as the primary key of employee table.

```
SQL> alter table employee add primary key(emp_id);

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMP_ID                                    NOT NULL NUMBER(10)
 F_NAME                                             VARCHAR2(10)
 L_NAME                                             VARCHAR2(10)
 JOB_TYPE                                           VARCHAR2(10)
 SALARY                                             NUMBER(10)
 DEPT                                               VARCHAR2(10)
 COMMISSION                                         NUMBER(10)
 MANAGER_ID                                         NUMBER(10)
```

3. Make f_name and salary NOT NULL type.

```
SQL> alter table employee modify(f_name not null,salary not null);

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMP_ID                                    NOT NULL NUMBER(10)
 F_NAME                                    NOT NULL VARCHAR2(10)
 L_NAME                                             VARCHAR2(10)
 JOB_TYPE                                           VARCHAR2(10)
 SALARY                                    NOT NULL NUMBER(10)
 DEPT                                               VARCHAR2(10)
 COMMISSION                                         NUMBER(10)
 MANAGER_ID                                         NUMBER(10)
```

4. Add a column date_of_joining in the employee table.

```
SQL> alter table employee add date_of_joining date;

Table altered.

SQL> desc employee;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMP_ID                                    NOT NULL NUMBER(10)
 F_NAME                                    NOT NULL VARCHAR2(10)
 L_NAME                                             VARCHAR2(10)
 JOB_TYPE                                           VARCHAR2(10)
```

5. Create a table department with attribute d_name, d_loc and HOD_id where d_name is primary key.

```
SQL> create table department(d_name varchar(15) primary key,d_loc varchar(10),hod_id
number(10));

Table created.

SQL> desc department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 D_NAME                                    NOT NULL VARCHAR2(15)
 D_LOC                                              VARCHAR2(10)
 HOD_ID                                             NUMBER(10)
```

6. Create a table location with attributes loc_id, city and contact_no.

```
SQL> create table location(loc_id number(10),city varchar(10),contact_no
number(10));

Table created.

SQL> desc location;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOC_ID                                             NUMBER(10)
 CITY                                               VARCHAR2(10)
 CONTACT_NO                                         NUMBER(10)
```

7. Enhance the size of the ‘city’ attribute by 5, in the location table.

```
SQL> alter table location modify city varchar(5);

Table altered.

SQL> desc location;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOC_ID                                             NUMBER(10)
 CITY                                               VARCHAR2(5)
 CONTACT_NO                                         NUMBER(10)
```

8. Delete the contact_no attribute from the location table.

```
SQL> alter table location drop column contact_no;

Table altered.

SQL> desc location;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOC_ID                                             NUMBER(10)
 CITY                                               VARCHAR2(5)
```

9. Make the department attribute of the employee table its foreign key referencing the department table.

```
SQL> alter table department rename column d_name to dept;

Table altered.

SQL> alter table employee add foreign key(dept) references department(dept);
```

10. Rename the city attribute to ‘address’ in the location table.

```
SQL> alter table location rename column city to address;

Table altered.
```

11. Rename the location table name to ‘loc’.

```
SQL> rename location to loc;

Table renamed.

SQL> desc loc;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOC_ID                                             NUMBER(10)
 ADDRESS                                            VARCHAR2(5)
```

12. Insert the following rows in ‘loc’ table

loc_id	address
1	Kolkata
2	Mumbai

```
SQL> alter table loc modify address varchar(10);

Table altered.

SQL> insert into loc values('&loc_id','&address');
Enter value for loc_id: 1
Enter value for address: Kolkata
old   1: insert into loc values('&loc_id','&address')
new   1: insert into loc values('1','Kolkata')

1 row created.
```

```
SQL> /
Enter value for loc_id: 2
Enter value for address: Mumbai
old   1: insert into loc values('&loc_id','&address')
new   1: insert into loc values('2','Mumbai')

1 row created.
```

13. Truncate the table ‘loc’.

```
SQL> truncate table loc;

Table truncated.
```

14. Drop the table ‘loc’.

```
SQL> drop table loc;

Table dropped.
```

15. Insert the following rows in the department table:

d_name	d_loc	HOD_id
Sales	Kol	4
Accounts	Delhi	6
Production	Kol	1
Marketing	Kol	2
R & D	Marketing	8

```
SQL> insert into department values('&dept','&d_loc','&hod_id');
Enter value for dept: Sales
Enter value for d_loc: Kol
Enter value for hod_id: 4
old   1: insert into department values('&dept','&d_loc','&hod_id')
new   1: insert into department values('Sales','Kol','4')

1 row created.

SQL> /
Enter value for dept: Accounts
Enter value for d_loc: Delhi
Enter value for hod_id: 6
old   1: insert into department values('&dept','&d_loc','&hod_id')
new   1: insert into department values('Accounts','Delhi','6')

1 row created.

SQL> /
Enter value for dept: Production
Enter value for d_loc: Kol
Enter value for hod_id: 1
old   1: insert into department values('&dept','&d_loc','&hod_id')
new   1: insert into department values('Production','Kol','1')
```

```
1 row created.

SQL> /
Enter value for dept: Marketing
Enter value for d_loc: Kol
Enter value for hod_id: 2
old   1: insert into department values('&dept','&d_loc','&hod_id')
new   1: insert into department values('Marketing','Kol','2')

1 row created.

SQL> /
Enter value for dept: R & D
Enter value for d_loc: Marketing
Enter value for hod_id: 8
old   1: insert into department values('&dept','&d_loc','&hod_id')
new   1: insert into department values('R & D','Marketing','8')

1 row created.
```

16. Insert the following rows in the employee table:

```
1 row created.

SQL> insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining');
Enter value for emp_id: 1
Enter value for f_name: Arun
Enter value for l_name: Khan
Enter value for job_type: Manager
Enter value for salary: 90000
Enter value for dept: Production
Enter value for commission:
Enter value for manager_id:
Enter value for date_of_joining: 04-Jan-1998
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('1','Arun','Khan','Manager','90000','Production','','','04-Jan-1998')
```

```
SQL> /
Enter value for emp_id: 2
Enter value for f_name: Barun
Enter value for l_name: Kumar
Enter value for job_type: manager
Enter value for salary: 80000
Enter value for dept: arketing
Enter value for commission:
Enter value for manager_id:
Enter value for date_of_joining: 09-Feb-1998
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('2','Barun','Kumar','manager','80000','arketing','','','09-Feb-1998')

1 row created.
```

```
SQL> /
Enter value for emp_id: 3
Enter value for f_name: Chitra
Enter value for l_name: Kapoor
Enter value for job_type: Engineer
Enter value for salary: 60000
Enter value for dept: Production
Enter value for commission:
```

```
Enter value for manager_id: 1
Enter value for date_of_joining: 08-Jan-1998
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('3','Chitra','Kapoor','Engineer','60000','Production','','1','08-Jan-1998')

1 row created.
```

```
SQL> /
Enter value for emp_id: 4
Enter value for f_name: Dheeraj
Enter value for l_name: Mishra
Enter value for job_type: Manager
Enter value for salary: 75000
Enter value for dept: Sales
Enter value for commission:
Enter value for manager_id: 4
Enter value for date_of_joining: 27-Dec-2001
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('4','Dheeraj','Mishra','Manager','75000','Sales','','4','27-Dec-2001')

1 row created.

SQL> /
Enter value for emp_id: 5
Enter value for f_name: Emma
Enter value for l_name: Dutt
Enter value for job_type: Engineer
Enter value for salary: 55000
Enter value for dept: Production
Enter value for commission:
Enter value for manager_id: 1
Enter value for date_of_joining: 20-Mar-2002
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('5','Emma','Dutt','Engineer','55000','Production','','1','20-Mar-2002')

1 row created.
```

```
SQL> /
Enter value for emp_id: 6
Enter value for f_name: Floki
Enter value for l_name: Dutt
Enter value for job_type: Accountant
Enter value for salary: 70000
Enter value for dept: Accounts
Enter value for commission:
Enter value for manager_id:
Enter value for date_of_joining: 16-Jul-2000
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('6','Floki','Dutt','Accountant','70000','Accounts','','','16-Jul-2000')

1 row created.
```

```
SQL> /
Enter value for emp_id: 7
Enter value for f_name: Dheeraj
```

```
Enter value for l_name: Kumar
Enter value for job_type: Clerk
Enter value for salary: 40000
Enter value for dept: Accounts
Enter value for commission:
Enter value for manager_id: 6
Enter value for date_of_joining: 01-Jul-2016
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('7','Dheeraj','Kumar','Clerk','40000','Accounts','','6','01-Jul-2016')

1 row created.

SQL> /
Enter value for emp_id: 8
Enter value for f_name: Saul
Enter value for l_name: Good
Enter value for job_type: Engineer
Enter value for salary: 60000
Enter value for dept: R & D
Enter value for commission:
Enter value for manager_id:
Enter value for date_of_joining: 06-Sep-2014
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee values('8','Saul','Good','Engineer','60000','R &
D','','','06-Sep-2014')

1 row created.
```

```
SQL> /
Enter value for emp_id: 9
Enter value for f_name: Mou
Enter value for l_name: Bhat
Enter value for job_type: Clerk
Enter value for salary: 30000
Enter value for dept: Sales
Enter value for commission:
Enter value for manager_id: 4
Enter value for date_of_joining: 08-Mar-2018
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('9','Mou','Bhat','Clerk','30000','Sales','','4','08-Mar-2018')

1 row created.
```

```
SQL> /
Enter value for emp_id: 10
Enter value for f_name: Sunny
Enter value for l_name: Deol
Enter value for job_type: Salesman
Enter value for salary: 20000
Enter value for dept: arketing
Enter value for commission: 10000
Enter value for manager_id: 2
Enter value for date_of_joining: 31-Mar-2001
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('10','Sunny','Deol','Salesman','20000','arketing','10000','2','31-Mar-2001')
```

```
SQL> /
Enter value for emp_id: 11
Enter value for f_name: Bobby
Enter value for l_name: Deol
Enter value for job_type: Engineer
Enter value for salary: 35000
Enter value for dept: R & D
Enter value for commission:
Enter value for manager_id: 8
Enter value for date_of_joining: 17-Oct-2017
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee values('11','Bobby','Deol','Engineer','35000','R &
D','','8','17-Oct-2017')

1 row created.

SQL> /
Enter value for emp_id: 12
Enter value for f_name: Aamir
Enter value for l_name: Khan
Enter value for job_type: Salesman
Enter value for salary: 15000
Enter value for dept: arketing
Enter value for commission: 5000
Enter value for manager_id: 2
Enter value for date_of_joining: 11-Jan-2013
old   1: insert into employee
values('&emp_id','&f_name','&l_name','&job_type','&salary','&dept','&commission','&m
anager_id','&date_of_joining')
new   1: insert into employee
values('12','Aamir','Khan','Salesman','15000','arketing','5000','2','11-Jan-2013')
```

17. Show the values of departmental table.

```
SQL> select * from department;

DEPT            D_LOC          HOD_ID
--------------- ---------- ----------
Sales           Kol                 4
Accounts        Delhi               6
Production      Kol                 1
arketing        Kol                 2
R & D           Marketing           8
```

18. Select the department names and their locations.

```
SQL> select dept,d_loc from department;

DEPT            D_LOC
--------------- ----------
Sales           Kol
Accounts        Delhi
Production      Kol
arketing        Kol
R & D           Marketing
```

19. Show the employees f_name , l_name , salary and the salaryafter1000rs. Bonus.

```
SQL> select f_name,l_name,salary,salary+1000 from employee;

F_NAME     L_NAME         SALARY SALARY+1000
---------- ---------- ---------- -----------
Arun       Khan            90000       91000
Barun      Kumar           80000       81000
Chitra     Kapoor          60000       61000
Dheeraj    Mishra          75000       76000
```

```
Emma       Dutt            55000       56000
Floki      Dutt            70000       71000
Dheeraj    Kumar           40000       41000
Saul       Good            60000       61000
Mou        Bhat            30000       31000
Sunny      Deol            20000       21000
Bobby      Deol            35000       36000

F_NAME     L_NAME         SALARY SALARY+1000
---------- ---------- ---------- -----------
Aamir      Khan            15000       16000

12 rows selected.
```

20. Show the employees annual salary with a 1000rs. Yearly bonus and the annual salary with a 100rs. Monthly bonus.

```
SQL> select salary+1000,salary+12*100 from employee;

SALARY+1000 SALARY+12*100
----------- -------------
      91000          91200
      81000          81200
      61000          61200
      76000          76200
      56000          56200
      71000          71200
      41000          41200
      61000          61200
      31000          31200
      21000          21200
      36000          36200

SALARY+1000 SALARY+12*100
----------- -------------
      16000          16200

12 rows selected.
```

21. Show f_name as NAME and annual salary as ANNSAL from the employee table.

```
SQL> select f_name as name,salary as annsal from employee;

NAME           ANNSAL
---------- ----------
Arun            90000
Barun           80000
Chitra          60000
Dheeraj         75000
Emma            55000
Floki           70000
Dheeraj         40000
Saul            60000
Mou             30000
Sunny           20000
Bobby           35000

NAME           ANNSAL
---------- ----------
Aamir           15000

12 rows selected.
```

22. Show the l_name as LasT AND 100rs. Incremented salary as NewSal.

```
SQL> select l_name as "LasT",salary+100 as "NewSal" from employee;
```

```
LasT           NewSal
---------- ----------
Khan            90100
Kumar           80100
Kapoor          60100
Mishra          75100
Dutt            55100
Dutt            70100
Kumar           40100
Good            60100
Bhat            30100
Deol            20100
Deol            35100

LasT           NewSal
---------- ----------
Khan            15100

12 rows selected.
```

23. Show the emp_id, f_name, l_name, job_type of the employee getting highest salary.

```
SQL> select emp_id,f_name,l_name,job_type from employee where salary=(select
max(salary) from employee);

    EMP_ID F_NAME     L_NAME     JOB_TYPE
---------- ---------- ---------- ----------
         1 Arun       Khan       Manager
```

24. Show the emp_id, f_name, l_name, job_type of the employee getting minimum salary.

```
SQL> select emp_id,f_name,l_name,job_type from employee where salary=(select
min(salary) from employee);

    EMP_ID F_NAME     L_NAME     JOB_TYPE
---------- ---------- ---------- ----------
        12 Aamir      Khan       Salesman
```

25. Show the average salary of employees in the employee table.

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

AVG(SALARY)
-----------
      52500
```

26. Consider the Insurance database given below.

The primary keys are underlined and the data types are specified:

PERSON (driver-id: string, name: string, address: string)

CAR (Regno:string,model:string,year:int)

ACCIDENT (report-number:int,date:date,location:string)

OWNS (driver-id:string,regno:string)

PARTICIPATED (driver-id:string,regno:string,report-number:int,damage-amount:int)

i. Create the above tables by properly specifying the primary keys and the foreign keys

```
SQL> create table person(driverid varchar2(20) primary key,name varchar2(20),address
varchar2(20));

Table created.

SQL> desc person;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DRIVERID                                  NOT NULL VARCHAR2(20)
 NAME                                               VARCHAR2(20)
 ADDRESS                                            VARCHAR2(20)

SQL> create table car(regno varchar2(20) primary key,model varchar2(20),year
number);

Table created.

SQL> desc car;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 REGNO                                     NOT NULL VARCHAR2(20)
 MODEL                                              VARCHAR2(20)
 YEAR                                               NUMBER

SQL> create table accident(reportno number primary key,accdate date,location
varchar2(20));
```

```
Table created.

SQL> desc accident;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 REPORTNO                                  NOT NULL NUMBER
 ACCDATE                                            DATE
 LOCATION                                           VARCHAR2(20)

SQL> create table owns(driverid varchar2(20) references person(driverid),regno
varchar2(20) references car(regno));

Table created.

SQL> desc owns;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DRIVERID                                           VARCHAR2(20)
 REGNO                                              VARCHAR2(20)

SQL> create table participated(dirverid varchar2(20) references person(driverid),
regno varchar2(20) references car(regno),reportno number references
accident(reportno),  dmg_amt number(10,2));

Table created.

SQL> desc participated;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DIRVERID                                           VARCHAR2(20)
 REGNO                                              VARCHAR2(20)
 REPORTNO                                           NUMBER
 DMG_AMT                                            NUMBER(10,2)
```

ii. Enter atleast five tuples for each relation

```
SQL> insert into person values('&driverid','&name','&address');
Enter value for driverid: 1
Enter value for name: Ram
Enter value for address: Kolkata
old   1: insert into person values('&driverid','&name','&address')
new   1: insert into person values('1','Ram','Kolkata')

1 row created.

SQL> /
Enter value for driverid: 103
Enter value for name: Shyam
Enter value for address: Newtown
old   1: insert into person values('&driverid','&name','&address')
new   1: insert into person values('103','Shyam','Newtown')

1 row created.
```

```
1 row created.

SQL> /
Enter value for driverid: 104
Enter value for name: Sagnik
Enter value for address: Rajarhat
old   1: insert into person values('&driverid','&name','&address')
new   1: insert into person values('104','Sagnik','Rajarhat')

1 row created.

SQL> /
Enter value for driverid: 105
Enter value for name: Sam
Enter value for address: Howrah
old   1: insert into person values('&driverid','&name','&address')
```

```
new   1: insert into person values('105','Sam','Howrah')

1 row created.

SQL> /
Enter value for driverid: 102
Enter value for name: Evan
Enter value for address: Bandel
old   1: insert into person values('&driverid','&name','&address')
new   1: insert into person values('102','Evan','Bandel')

1 row created.

SQL> insert into car values('&regno','&model','&year');
Enter value for regno: 111
Enter value for model: Hundai
Enter value for year: 1998
old   1: insert into car values('&regno','&model','&year')
new   1: insert into car values('111','Hundai','1998')

1 row created.

SQL> /
Enter value for regno: 222
Enter value for model: BMW
Enter value for year: 2001
old   1: insert into car values('&regno','&model','&year')
new   1: insert into car values('222','BMW','2001')

1 row created.
```

```
SQL> /
Enter value for regno: 333
Enter value for model: Innova
Enter value for year: 2003
old   1: insert into car values('&regno','&model','&year')
new   1: insert into car values('333','Innova','2003')

1 row created.

SQL> /
Enter value for regno: 444
Enter value for model: Maruti
Enter value for year: 2005
old   1: insert into car values('&regno','&model','&year')
new   1: insert into car values('444','Maruti','2005')

1 row created.

SQL> /
Enter value for regno: 555
Enter value for model: Suzuki
Enter value for year: 2000
old   1: insert into car values('&regno','&model','&year')
new   1: insert into car values('555','Suzuki','2000')

1 row created.

SQL> insert into owns values('&driverid','&regno');
Enter value for driverid: 1
Enter value for regno: 111
old   1: insert into owns values('&driverid','&regno')
new   1: insert into owns values('1','111')

1 row created.
```

```
Enter value for driverid: 102
Enter value for regno: 222
old   1: insert into owns values('&driverid','&regno')
new   1: insert into owns values('102','222')

1 row created.

SQL> /
Enter value for driverid: 103
Enter value for regno: 333
old   1: insert into owns values('&driverid','&regno')
new   1: insert into owns values('103','333')
```

```
SQL> /
Enter value for driverid: 104
Enter value for regno: 444
old   1: insert into owns values('&driverid','&regno')
new   1: insert into owns values('104','444')

1 row created.

SQL> /
Enter value for driverid: 105
Enter value for regno: 555
old   1: insert into owns values('&driverid','&regno')
new   1: insert into owns values('105','555')

1 row created.

SQL> insert into accident values('&reportno','&accdate','&location');
Enter value for reportno: 201
Enter value for accdate: 11-Jan-2006
Enter value for location: Kolkata
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('201','11-Jan-2006','Kolkata')

1 row created.

SQL> /
Enter value for reportno: 202
Enter value for accdate: 12-Jan-2007
Enter value for location: Delhi
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('202','12-Jan-2007','Delhi')

1 row created.
```

```
SQL> /
Enter value for reportno: 203
Enter value for accdate: 12-Jan-2008
Enter value for location: Newtown
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('203','12-Jan-2008','Newtown')

1 row created.

SQL> /
Enter value for reportno: 204
Enter value for accdate: 13-Jan-2006
Enter value for location: Rajarhat
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('204','13-Jan-2006','Rajarhat')

1 row created.
```

```
SQL> /
Enter value for reportno: 205
Enter value for accdate: 13-Jan-2009
Enter value for location: Bandel
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('205','13-Jan-2009','Bandel')

1 row created.

SQL> insert into participated values('&driverid','&regno','&reportno','&dmg_amt');
Enter value for driverid: 1
Enter value for regno: 111
Enter value for reportno: 201
Enter value for dmg_amt: 10000
old   1: insert into participated
values('&driverid','&regno','&reportno','&dmg_amt')
new   1: insert into participated values('1','111','201','10000')

1 row created.

SQL> /
Enter value for driverid: 102
Enter value for regno: 222
Enter value for reportno: 202
Enter value for dmg_amt: 20000
old   1: insert into participated
values('&driverid','&regno','&reportno','&dmg_amt')
new   1: insert into participated values('102','222','202','20000')

1 row created.
```

```
SQL> /
Enter value for driverid: 103
Enter value for regno: 333
Enter value for reportno: 203
Enter value for dmg_amt: 30000
old   1: insert into participated
values('&driverid','&regno','&reportno','&dmg_amt')
new   1: insert into participated values('103','333','203','30000')

1 row created.

SQL> /
Enter value for driverid: 104
Enter value for regno: 444
Enter value for reportno: 204
Enter value for dmg_amt: 40000
old   1: insert into participated
values('&driverid','&regno','&reportno','&dmg_amt')
new   1: insert into participated values('104','444','204','40000')

1 row created.
```

```
SQL> /
Enter value for driverid: 105
Enter value for regno: 555
Enter value for reportno: 205
Enter value for dmg_amt: 50000
old   1: insert into participated
values('&driverid','&regno','&reportno','&dmg_amt')
new   1: insert into participated values('105','555','205','50000')

1 row created.
```

iii. Demonstrate how you

a.) Update the damage amount for the car with a specific regno in accident with report number 12 to 25000.

```
SQL> update participated set dmg_amt=dmg_amt +2500 where regno<=25000 and regno>=12;
```

```
5 rows updated.

SQL> select * from participated;

DIRVERID             REGNO                    REPORTNO    DMG_AMT
-------------------- -------------------- ---------- ----------
1                    111                         201      12500
102                  222                         202      22500
103                  333                         203      32500
104                  444                         204      42500
105                  555                         205      52500
```

b) Add a new accident to the database.

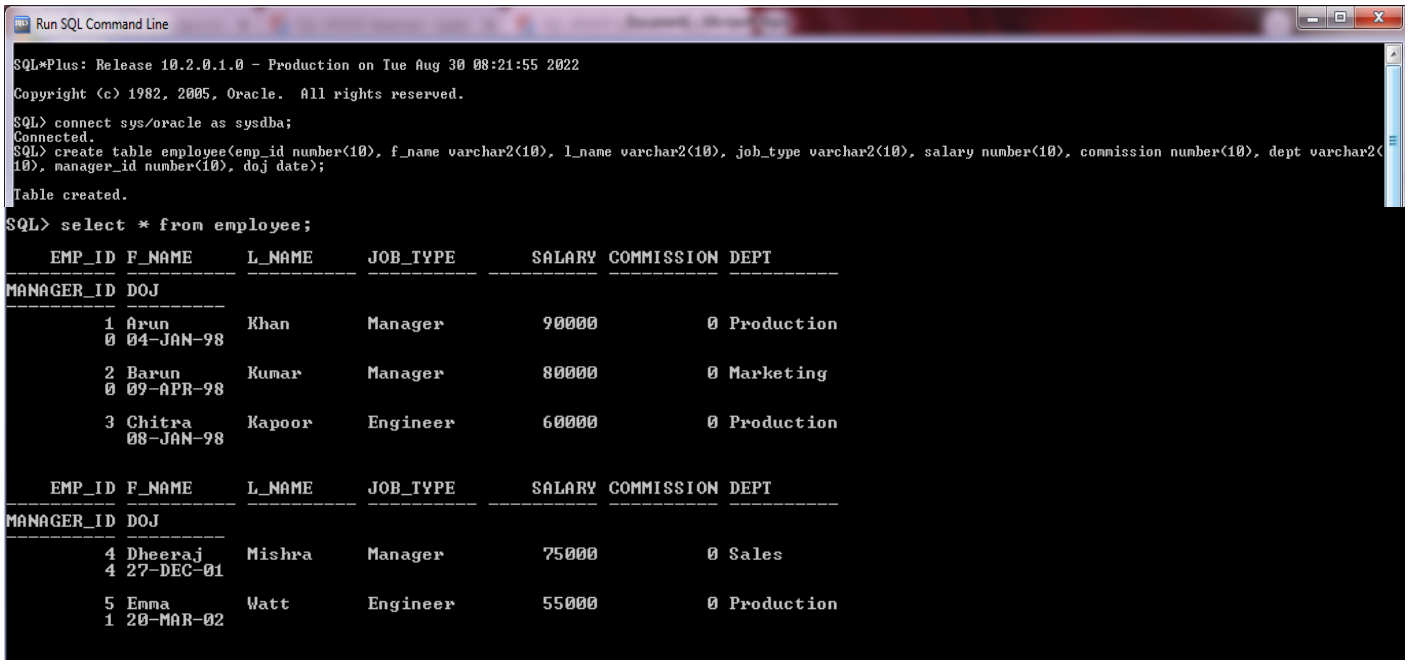
```
SQL> insert into accident values('&reportno','&accdate','&location');
Enter value for reportno: 206
Enter value for accdate: 22-Jan-2001
Enter value for location: Kerala
old   1: insert into accident values('&reportno','&accdate','&location')
new   1: insert into accident values('206','22-Jan-2001','Kerala')

1 row created.
```

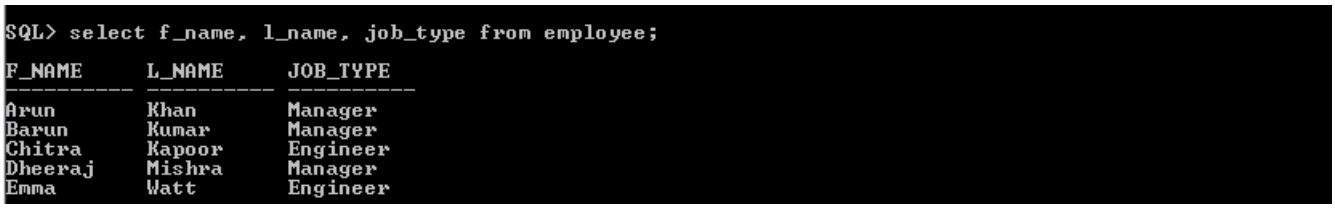
iv. Find the total number of people who owned cars that were involved in accidents in 2006.

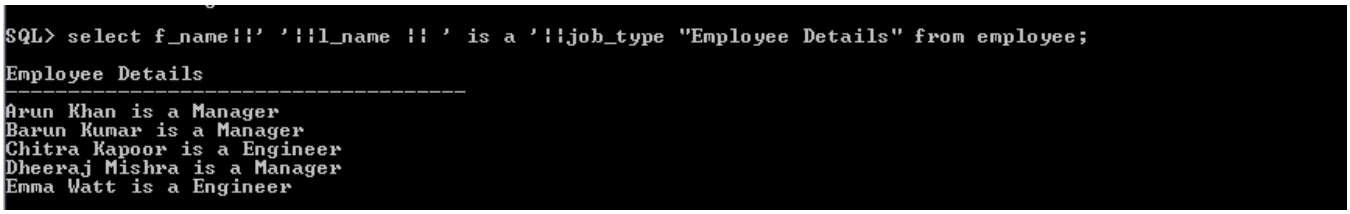
```
SQL> select count(*) from accident where accdate between '01-Jan-2006' and '31-Dec-
2006';

  COUNT(*)
----------
         2
```

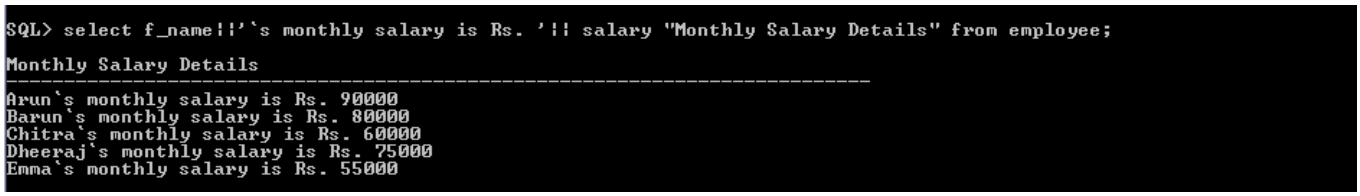
v. Find the number of accidents in which cars belonging to a specific model were involved.

```
SQL> select count(*) as Suzuki_Accident from car,accident,participated where
car.regno= participated.regno and accident.reportno=participated.reportno and
car.model='Suzuki';

SUZUKI_ACCIDENT
---------------
              1
```


Run SQL Command Line
SQL*Plus: Release 10.2.0.1.0 - Production on Tue Aug 30 08:21:55 2022
Copyright (c) 1982, 2005, Oracle. All rights reserved.
SQL> connect sys/oracle as sysdba;
Connected.
SQL> create table employee(emp_id number(10), f_name varchar2(10), l_name varchar2(10), job_type varchar2(10), salary number(10), commission number(10), dept varchar2(10), manager_id number(10), doj date);
Table created.
SQL> select * from employee;
EMP_ID F_NAME L_NAME JOB_TYPE SALARY COMMISSION DEPT
MANAGER_ID DOJ
1 Arun Khan Manager 90000 0 Production
0 04-JAN-98
2 Barun Kumar Manager 80000 0 Marketing
0 09-APR-98
3 Chitra Kapoor Engineer 60000 0 Production
08-JAN-98
EMP_ID F_NAME L_NAME JOB_TYPE SALARY COMMISSION DEPT
MANAGER_ID DOJ
4 Dheeraj Mishra Manager 75000 0 Sales
4 27-DEC-01
5 Emma Watt Engineer 55000 0 Production
1 20-MAR-02


SQL> select f_name, l_name, job_type from employee;
F_NAME L_NAME JOB_TYPE
Arun Khan Manager
Barun Kumar Manager
Chitra Kapoor Engineer
Dheeraj Mishra Manager
Emma Watt Engineer


SQL> select f_name||' '||l_name || ' is a '||job_type "Employee Details" from employee;
Employee Details
Arun Khan is a Manager
Barun Kumar is a Manager
Chitra Kapoor is a Engineer
Dheeraj Mishra is a Manager
Emma Watt is a Engineer


SQL> select f_name||'`s monthly salary is Rs. '|| salary "Monthly Salary Details" from employee;
Monthly Salary Details
Arun`s monthly salary is Rs. 90000
Barun`s monthly salary is Rs. 80000
Chitra`s monthly salary is Rs. 60000
Dheeraj`s monthly salary is Rs. 75000
Emma`s monthly salary is Rs. 55000

```
SQL> create table department(d_name varchar2(10), d_loc varchar2(10), hod_id number(10));

Table created.

SQL> insert into department values('Sales', 'Kol', 4);

1 row created.

SQL> insert into department values('Accounts', 'Delhi', 6);

1 row created.

SQL> insert into department values('Production', 'Kol', 1);

1 row created.

SQL> insert into department values('Marketing', 'Kol', 2);

1 row created.

SQL> insert into department values('R and D', 'Marketing', 8);

1 row created.

SQL> select * from department;

D_NAME     D_LOC          HOD_ID
---------- ---------- ----------
Sales      Kol                 4
Accounts   Delhi               6
Production Kol                 1
Marketing  Kol                 2
R and D    Marketing           8
```

```
SQL> select * from department where d_name='Sales';

D_NAME     D_LOC          HOD_ID
---------- ---------- ----------
Sales      Kol                 4
```

```
SQL> select * from employee where salary > 50000;
    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         1 Arun       Khan       Manager         90000          0 Production
         0 04-JAN-98

         2 Barun      Kumar      Manager         80000          0 Marketing
         0 09-APR-98

         3 Chitra     Kapoor     Engineer        60000          0 Production
           08-JAN-98


    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         4 Dheeraj    Mishra     Manager         75000          0 Sales
         4 27-DEC-01

         5 Emma       Watt       Engineer        55000          0 Production
         1 20-MAR-02
```

```
SQL> select * from employee where manager_id != 1;
    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         1 Arun       Khan       Manager         90000          0 Production
         0 04-JAN-98

         2 Barun      Kumar      Manager         80000          0 Marketing
         0 09-APR-98

         4 Dheeraj    Mishra     Manager         75000          0 Sales
         4 27-DEC-01
```

```
SQL> select * from employee where salary > 40000 and salary <70000;

    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         3 Chitra     Kapoor     Engineer        60000          0 Production
           08-JAN-98

         5 Emma       Watt       Engineer        55000          0 Production
         1 20-MAR-02
```

```
SQL> select * from employee where manager_id = 1 or manager_id=6 or manager_id=8;

    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         5 Emma       Watt       Engineer        55000          0 Production
         1 20-MAR-02
```

```
SQL> select f_name, salary from employee where l_name like 'K%';

F_NAME          SALARY
---------- ----------
Arun             90000
Barun            80000
Chitra           60000
```

```
SQL> select f_name, salary from employee where l_name like 'K%r';

F_NAME          SALARY
---------- ----------
Barun            80000
Chitra           60000
```

```
SQL> select * from employee where l_name like '__o%';

no rows selected
```

```
SQL> select * from employee where job_type='Engineer' and salary > 50000;

    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         3 Chitra     Kapoor     Engineer        60000          0 Production
           08-JAN-98

         5 Emma       Watt       Engineer        55000          0 Production
         1 20-MAR-02
```

```
SQL> select * from employee where dept='Production' or salary > 60000;

    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         1 Arun       Khan       Manager         90000          0 Production
         0 04-JAN-98

         2 Barun      Kumar      Manager         80000          0 Marketing
         0 09-APR-98

         3 Chitra     Kapoor     Engineer        60000          0 Production
           08-JAN-98


    EMP_ID F_NAME     L_NAME     JOB_TYPE       SALARY COMMISSION DEPT
---------- ---------- ---------- ---------- ---------- ---------- ----------
MANAGER_ID DOJ
---------- ---------
         4 Dheeraj    Mishra     Manager         75000          0 Sales
         4 27-DEC-01

         5 Emma       Watt       Engineer        55000          0 Production
         1 20-MAR-02
```

```
SQL> select min(salary), max(salary), sum(salary), avg(salary) from employee where dept='Sales';

MIN(SALARY) MAX(SALARY) SUM(SALARY) AVG(SALARY)
----------- ----------- ----------- -----------
      75000       75000       75000       75000
```

```
SQL> select * from ( select l_name from employee order by emp_id ) where rownum = 1;

L_NAME
----------
Khan

SQL> select * from ( select f_name from employee order by emp_id DESC ) where rownum = 1;

F_NAME
----------
Emma
```

```
SQL> select dept, count(*) from employee group by dept;

DEPT         COUNT(*)
---------- ----------
Production          3
Sales               1
Marketing           1
```

```
SQL> select count(*) "Total" from (select dept from employee group by dept);

     Total
----------
         3
```

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

AVG(COMMISSION)
---------------
              0
```

```
SQL> select dept, avg(salary) from employee group by dept;

DEPT       AVG(SALARY)
---------- -----------
Production  68333.3333
Sales             75000
Marketing         80000
```

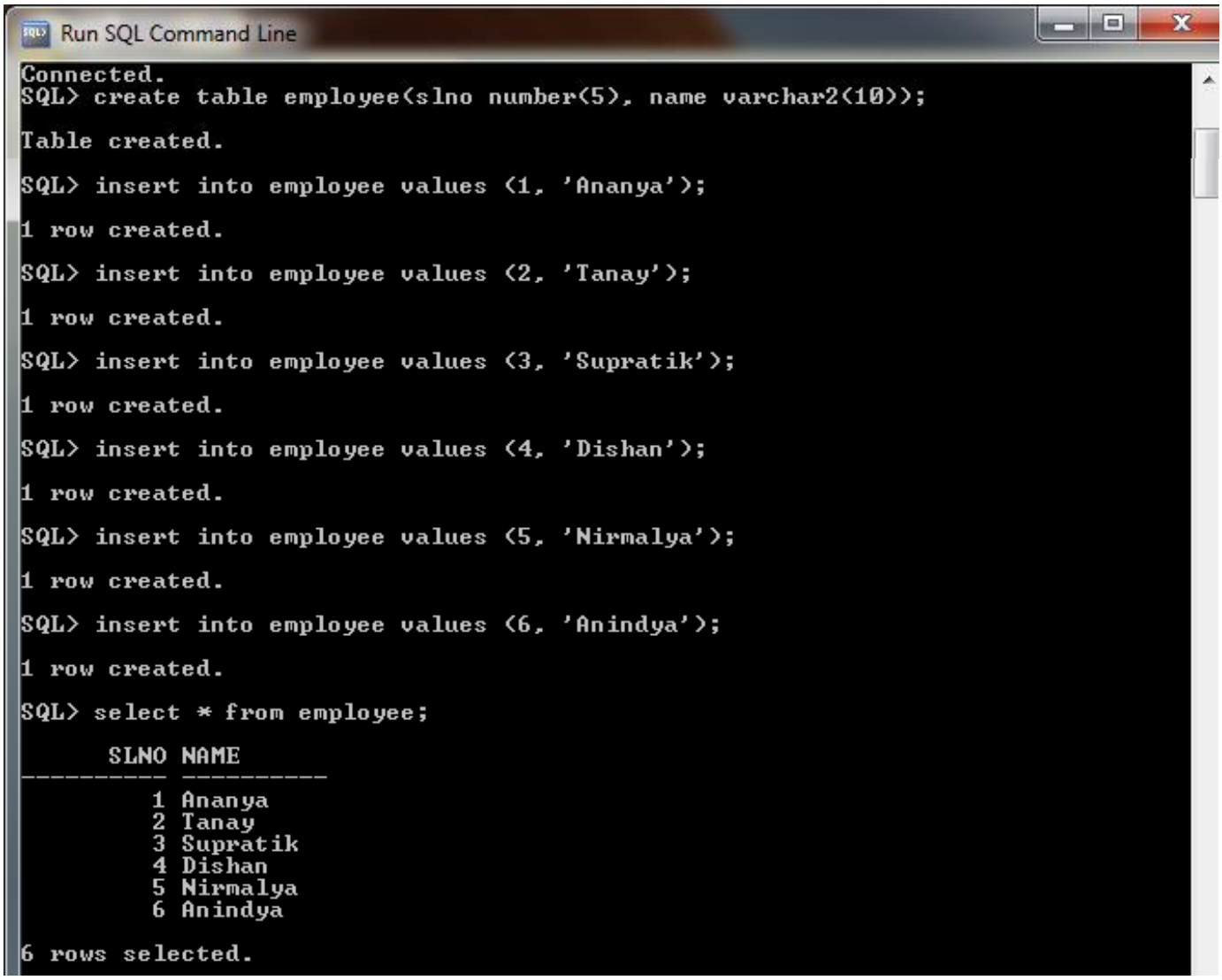
```
SQL> select job_type, sum(salary) from employee group by job_type;

JOB_TYPE   SUM(SALARY)
---------- -----------
Manager         245000
Engineer        115000
```

```
SQL> select dept, avg(salary) from employee group by dept having avg(salary) > 40000;

DEPT       AVG(SALARY)
---------- -----------
Production  68333.3333
Sales             75000
Marketing         80000
```

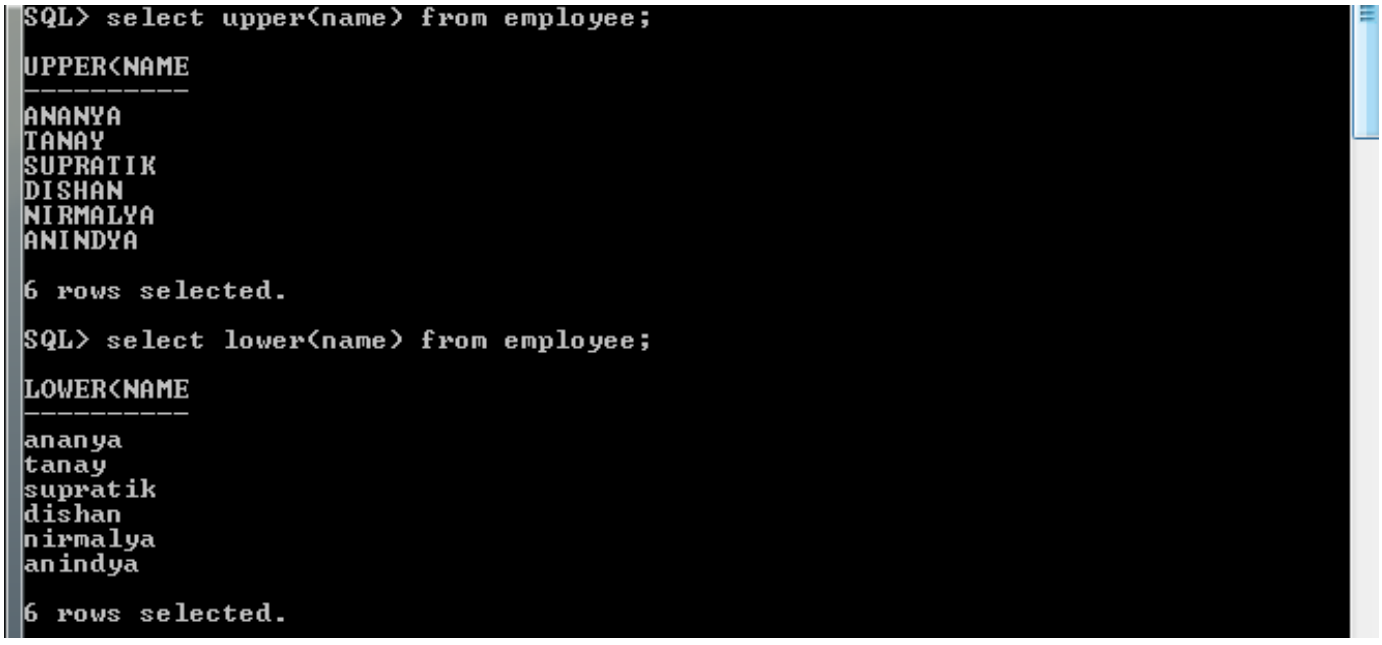
```
SQL> select dept,max(salary) from employee group by dept having max(salary) > 55000;

DEPT       MAX(SALARY)
---------- -----------
Production        90000
Sales             75000
Marketing         80000
```

```
SQL> select job_type, sum(salary) from employee group by job_type having sum(salary) > 100000;

JOB_TYPE   SUM(SALARY)
---------- -----------
Manager         245000
Engineer        115000
```

\


Run SQL Command Line
Connected.
SQL> create table employee(slno number(5), name varchar2(10));
Table created.
SQL> insert into employee values (1, 'Ananya');
1 row created.
SQL> insert into employee values (2, 'Tanay');
1 row created.
SQL> insert into employee values (3, 'Supratik');
1 row created.
SQL> insert into employee values (4, 'Dishan');
1 row created.
SQL> insert into employee values (5, 'Nirmalya');
1 row created.
SQL> insert into employee values (6, 'Anindya');
1 row created.
SQL> select * from employee;
SLNO NAME
1 Ananya
2 Tanay
3 Supratik
4 Dishan
5 Nirmalya
6 Anindya
6 rows selected.

1


SQL> select upper(name) from employee;
UPPER(NAME
ANANYA
TANAY
SUPRATIK
DISHAN
NIRMALYA
ANINDYA
6 rows selected.
SQL> select lower(name) from employee;
LOWER(NAME
ananya
tanay
supratik
dishan
nirmalya
anindya
6 rows selected.

2

```
SQL> select concat('ananyapal', '.com') as MyWebsite from dual;

MYWEBSITE
-------------
ananyapal.com
```

```
SQL> select instr('AnanyaPal', 'Pal', 1) from dual;

INSTR('ANANYAPAL','PAL',1)
--------------------------
                         7
```

```
SQL> select 'AnanyaPal' string, length('AnanyaPal') Len from dual;

STRING           LEN
--------- ----------
AnanyaPal          9
```

3

```
SQL> select sqrt(26) "Square Root of 26" from dual;

Square Root of 26
-----------------
       5.09901951

SQL> select power(2, 3) from dual;

POWER(2,3)
----------
         8

SQL> select 26.54567465 as "value", ceil(26.54567465) from dual;

     value CEIL(26.54567465)
---------- -----------------
26.5456747                27

SQL> select substr('ABCDEFGHIJ', 3, 4) "Substring" from dual;

Subs
----
CDEF

SQL> select max(slno) "Maximum" from employee;

   Maximum
----------
         6

SQL> select min(slno) "Minimum" from employee;

   Minimum
----------
         1

SQL> select round(15.53345) "Round" from dual;

     Round
----------
        16

SQL> select avg(slno) "Average" from employee;

   Average
----------
       3.5

SQL> select count(*) "Total Sl.no" from employee;

Total Sl.no
-----------
          6

SQL> select exp(4) "e to the 4th power" from dual;

e to the 4th power
------------------
          54.59815

SQL> select mod(24,7) from dual;

 MOD(24,7)
----------
         3
```

4i

```
SQL> select 14.887 as "value", ceil(14.887) from dual;

     value CEIL(14.887)
---------- ------------
    14.887           15

SQL> select floor(14.887) "floor" from dual;

     floor
----------
        14
```

4ii

```
SQL> select round(17.49989) "Round" from dual;

     Round
----------
        17
```

4iii

```
SQL> select power(8, 7) from dual;

POWER(8,7)
----------
   2097152
```

5

```
SQL> select current_date from dual;

CURRENT_D
---------
06-SEP-22
```

7a

```
SQL> select months_between (to_date('02-02-2015', 'MM-DD-YYYY'), to_date('12-01-
2014', 'MM-DD-YYYY')) "Months" from dual;

    Months
----------
2.03225806
```

7b

```
SQL> select add_months( DATE '2022-09-06', 2) from dual;

ADD_MONTHS
----------
2022-11-06
```

7c

```
SQL> select next_day( DATE '2022-09-06', 'Tuesday') "Next day" from dual;

Next day
----------
2022-09-13
```

7d

```
SQL> select  sysdate, last_day(sysdate) "Last" , last_day(sysdate) - sysdate "Da
ys Left" from dual;

SYSDATE   Last       Days Left
--------- ---------- ----------
2022-09-06 2022-09-30         24
```

7e

```
SQL> select round(sysdate, 'Day') from dual;

ROUND(SYSD
----------
2022-09-04
```

7f

```
SQL> select trunc(sysdate, 'Day') from dual;

TRUNC(SYSD
----------
2022-09-04
```

7g

```
SQL> select to_char(sysdate, 'dd-mm-yyyy') from dual;

TO_CHAR(SY
----------
06-09-2022
```

Outputs

f_name	l_name	job_type
Arun	Khan	Manager
Barun	Kumar	Manager
Chitra	Kapoor	Engineer
Dheeraj	Mishra	Manager
Emma	Dutta	Engineer
Floki	Dutta	Accountant
Dheeraj	Kumar	Clerk
Saul	Good	Engineer
Mou	Bhat	Clerk
Sunny	Deol	Salesman
Bobby	Deol	Engineer
Amir	Khan	Salesman

d_name	d_loc	hod_id
Production	Kol	1
Marketing	Kol	2
Sales	Kol	4
Accounts	Delhi	6
R&D	Marketing	8
NULL	NULL	NULL

1.

EID	ENAME	DOJ	SALARY	DID	DNAME	DID	DNAME	MGR
E629	Ranjita	29-OCT-18	49000	D120	Sales	D245	Entry	Shaurya
E191	Abhijit	18-JUL-17	60000	D846	IT	D245	Entry	Shaurya
E432	Zoya	18-JUL-17	30000	D245	Entry	D245	Entry	Shaurya
E542	Jasmine	16-FEB-17	308000	D247	BackOfc	D245	Entry	Shaurya
E203	Abhijit	19-OCT-19	56000	D120	Sales	D194	Management	Akash
E049	Sumit	08-JAN-19	65000	D420	Marketing	D194	Management	Akash
E713	Priyam	01-NOV-16	86000	D420	Marketing	D194	Management	Akash
E629	Ranjita	29-OCT-18	49000	D120	Sales	D194	Management	Akash
E191	Abhijit	18-JUL-17	60000	D846	IT	D194	Management	Akash
E432	Zoya	18-JUL-17	30000	D245	Entry	D194	Management	Akash
E542	Jasmine	16-FEB-17	308000	D247	BackOfc	D194	Management	Akash

35 rows selected.

2. 3. 4. Table created 5.

f_name	l_name	dept
Arun	Khan	Production
Barun	Kumar	Marketing
Chitra	Kapoor	Production
Dheeraj	Mishra	Sales
Emma	Dutta	Production
Floki	Dutta	Accounts
Dheeraj	Kumar	Accounts
Saul	Good	R&D
Mou	Bhat	Sales
Sunny	Deol	Marketing
Bobby	Deol	R&D
Amir	Khan	marketing

f_name	doj
Arun	1998-01-04
Barun	1998-02-09
Chitra	1998-01-08
Dheeraj	2001-12-27
Emma	2002-03-20
Floki	2000-07-16
Dheeraj	2016-07-01
Saul	2014-09-06
Mou	2018-03-08
Sunny	2001-03-31
Bobby	2017-10-17
Amir	2013-01-11

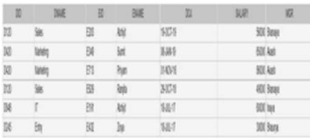
f_name	l_name	job_type
Arun	Khan	Manager
Barun	Kumar	Manager
Chitra	Kapoor	Engineer
Dheeraj	Mishra	Manager
Emma	Dutta	Engineer
Floki	Dutta	Accountant
Dheeraj	Kumar	Clerk
Saul	Good	Engineer
Mou	Bhat	Clerk
Sunny	Deol	Salesman
Bobby	Deol	Engineer
Amir	Khan	Salesman

6. 7. Table created 8. 9. 1 row inserted 10. 1 row inserted

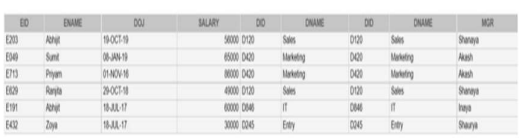
f_name
Arun
Barun
Dheeraj

f_name	salary
Arun	90000
Barun	80000
Dheeraj	75000

11.a.

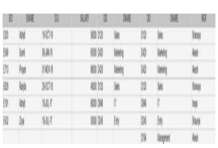


11.b.



EID	ENAME	DOJ	SALARY	DID	DNAME	DID	DNAME	MGR
E203	Abhijit	19-OCT-19	56000	D120	Sales	D120	Sales	Shaurya
E049	Sumit	08-JAN-19	65000	D420	Marketing	D420	Marketing	Akash
E713	Priyam	01-NOV-16	86000	D420	Marketing	D420	Marketing	Akash
E629	Ranjita	29-OCT-18	49000	D120	Sales	D120	Sales	Shaurya
E191	Abhijit	18-JUL-17	60000	D846	IT	D846	IT	Shaurya
E432	Zoya	18-JUL-17	30000	D245	Entry	D245	Entry	Shaurya

11.c.



Outputs

1.

first_name	last_name	email
Steven	King	SKING
Neena	Kochhar	NKOCHHAR
Lex	De Haan	LDEHAAN
Alexander	Hunold	AHUNOLD
Bruce	Ernst	BERNST
David	Austin	DAUSTIN
Valli	Pataballa	VPATABAL
Diana	Lorentz	DLORENTZ
Nancy	Greenberg	NGREENBE
Daniel	Faviet	DFAVIET

2.

SUBSTRING (first_name,1,3)
Ell
Sun
Moz
Dav
Her
She
Ami
Eli
Sar
Dav

3.1

4.

COMPLETE_NAME
Monika Arora
Niharika Verma
Vishal Singhal
Amitabh Singh
Vivek Bhati
Vipul Diwan
Satish Kumar
Geetika Chauhan

5.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
4	Amitabh	Singh	500000	2014-02-20 09:00:00	Admin
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account
6	Vipul	Diwan	200000	2014-06-11 09:00:00	Account
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
NULL	NULL	NULL	NULL	NULL	NULL

6.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
4	Amitabh	Singh	500000	2014-02-20 09:00:00	Admin
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin
NULL	NULL	NULL	NULL	NULL	NULL

7.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin
NULL	NULL	NULL	NULL	NULL	NULL

8.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
4	Amitabh	Singh	500000	2014-02-20 09:00:00	Admin
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
6	Vipul	Diwan	200000	2014-06-11 09:00:00	Account
NULL	NULL	NULL	NULL	NULL	NULL

9.

COUNT(*)
4

10.

DEPARTMENT	No_Of_Workers
Admin	4
HR	2
Account	1

11.

FIRST_NAME	WORKER_TITLE
Monika	Manager
Vivek	Manager

12.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account
NULL	NULL	NULL	NULL	NULL	NULL

13.

CURDATE()
2022-10-16

14.

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
4	Amitabh	Singh	500000	2014-02-20 09:00:00	Admin
5	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
3	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
6	Vipul	Diwan	200000	2014-06-11 09:00:00	Account
1	Monika	Arora	100000	2014-02-20 09:00:00	HR
8	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin
2	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
7	Satish	Kumar	75000	2014-01-20 09:00:00	Account
NULL	NULL	NULL	NULL	NULL	NULL

15.

WORKER_ID	FIRST_NAME	Salary
5	Vivek	500000
4	Amitabh	500000

16.

max(Salary)
300000

17.

DEPARTMENT	FIRST_NAME	Salary
HR	Vishal	300000
Admin	Amitabh	500000
Admin	Vivek	500000
Account	Vipul	200000

18.

DEPARTMENT	sum(Salary)
HR	400000
Admin	1170000
Account	275000

Outputs

1.

emp_id	emp_name	job_name	hire_date	Experience
68319	KAYLING	PRESIDENT	1991-11-18	26 years 2 mons 17 days
66928	BLAZE	MANAGER	1991-05-01	26 years 9 mons 4 days
67832	CLARE	MANAGER	1991-06-09	26 years 7 mons 26 days
65646	JONAS	MANAGER	1991-04-02	26 years 10 mons 3 days
67858	SCARLET	ANALYST	1997-04-19	20 years 9 mons 16 days
69062	FRANK	ANALYST	1991-12-03	26 years 2 mons 2 days

2.

dep_id	job_name
3001	MANAGER
2001	ANALYST
3001	SALESMAN
1001	MANAGER
1001	PRESIDENT
2001	MANAGER
2001	CLERK
1001	CLERK
3001	CLERK

3.

100	Steven	King	AD_PRES	24000
101	Neena	Kochhar	AD_VP	17000
102	Lex	De Haan	AD_VP	17000
103	Alexander	Hunold	DEVELOPER	9000
104	Bruce	Ernst	DEVELOPER	6000
105	David	Austin	DEVELOPER	4800
106	Valli	Pataballa	DEVELOPER	4800
107	Diana	Lorentz	DEVELOPER	4200

4.

employee_id	first_name	last_name	email	phone_number
116	Neena	Kochhar	SBAIDA	515.127.4563
117	Lex	De Haan	STOBIAS	515.127.4564
118	Alexander	Hunold	GHIMURO	515.127.4565

5.

9.

emp_id	emp_name	job_name	manager_id	hire_date	salary	commission	dep_id
63679	SANDRINE	CLERK	69062	1990-12-18	900.00		2001
65271	WADE	SALESMAN	66928	1991-02-22	1350.00	600.00	3001
66564	MADDEN	SALESMAN	66928	1991-09-28	1350.00	1500.00	3001

11.

first_name	last_name	salary
Neena	Kochhar	17000.00
Lex	De Haan	17000.00
Bruce	Ernst	6000.00

12.

last_name	job_id	salary
Hunold	IT_PROG	9000
Ernst	IT_PROG	6000
Austin	IT_PROG	4800
Pataballa	IT_PROG	4800
Lorentz	IT_PROG	4200
Taylor	SH_CLERK	3200
Fleaur	SH_CLERK	3100
Sullivan	SH_CLERK	2500
Geoni	SH_CLERK	2800
Sarchand	SH_CLERK	4200

Outputs

1. iii.

author1_id	author1_name	author1_city	author1_country
1001	JK Rowling	London	England

iv.

+ 1 row in set (0.00 sec)

v.

book_id	book_title	author1_id	publisher1_id	category_id	year	price
4001	HP and Goblet Of Fire	1001	2001	3001	2002	600
4002	HP and Order Of Phoenix	1001	2002	3001	2005	650
4003	Two States	1002	2004	3001	2009	65
4004	3 Mistakes of my life	1002	2004	3001	2007	55
4005	Da Vinci Code	1004	2003	3001	2004	495
4006	Angels and Demons	1004	2003	3001	2003	385
4007	Artificial Intelligence	1003	2002	3002	1970	500

2. iii.

customer_name
cust1

iv.

customer_name
cust3

v.

accno	branch_name	balance
12	b1	3000
22	b2	4000
32	b3	5000
42	b4	6000

3. iii.

Alfreds Futterkiste	Peacock, Margaret	05-Oct-1997	31-Oct-199
Alfreds Futterkiste	Peacock, Margaret	13-Oct-1997	24-Nov-199
Alfreds Futterkiste	Davolio, Nancy	15-Jan-1998	12-Feb-199

iv.

ord_no	purch_amt	cust_name	city
70007	948.50	Graham Zusi	California
70010	1983.43	Fabian Johnson	Paris

v.

OrderNo	Odate	CustNo	Ord_amt
21	03-04-02	11	10000
22	09-03-04	22	11000
23	23-01-01	33	14000
24	11-08-08	44	16000
25	06-10-10	55	20000

1

```
SQL> set serveroutput on;
SQL> declare
  2  a number;
  3  b number;
  4  c number;
  5  begin
  6  a:=&a;
  7  b:=&b;
  8  c:=&c;
  9  if(a>b  and a>c) then
 10  dbms_output.put_line('a is largest '||a);
 11  elsif(b>a  and b>c) then
 12  dbms_output.put_line('b is largest '||b);
 13  else
 14  dbms_output.put_line('c is largest '||c);
 15  end if;
 16  end;
 17  /
Enter value for a: 5
old   6: a:=&a;
new   6: a:=5;
Enter value for b: 8
old   7: b:=&b;
new   7: b:=8;
Enter value for c: 7
old   8: c:=&c;
new   8: c:=7;
b is largest 8

PL/SQL procedure successfully completed.
```

3

```
SQL> set serveroutput on;
SQL> declare
  2  i number(4):=1;
  3  n number(4):=&n;
  4  f number(4) :=1;
  5  begin
  6  for i in 1..n
  7  loop
  8  f:=f*i;
  9  end loop;
 10  dbms_output.put_line('Factorial of ' ||n|| ' is: '||f);
 11  end;
 12  /
Enter value for n: 6
old   3: n number(4):=&n;
new   3: n number(4):=6;
Factorial of 6 is: 720

PL/SQL procedure successfully completed.
```

4

```
SQL> set serveroutput on;
SQL> declare
  2  n number;
  3  i number;
  4  flag number;
  5  begin
  6  i:=2;
  7  flag:=1;
  8  n:=&n;
  9  for i in 2..n/2
 10  loop
 11  if mod(n,i)=0
 12  then
 13  flag:=0;
 14  exit;
 15  end if;
 16  end loop;
 17  if flag=1
 18  then
 19  dbms_output.put_line('Prime');
 20  else
 21  dbms_output.put_line('Not Prime');
 22  end if;
 23  end;
 24  /
Enter value for n: 13
old   8: n:=&n;
new   8: n:=13;
Prime

PL/SQL procedure successfully completed.
```

5

```
SQL> set serveroutput on;
SQL> declare
  2  a number:=0;
  3  b number:=1;
  4  temp number;
  5  n number:=10;
  6  i number;
  7  begin
  8  dbms_output.put_line('Fibonacci Series:');
  9  dbms_output.put_line(a);
 10  dbms_output.put_line(b);
 11  for i in 2..n
 12  loop
 13  temp:=a+b;
 14  a:=b;
 15  b:=temp;
 16  dbms_output.put_line(temp);
 17  end loop;
 18  end;
 19  /
Fibonacci Series:
0
1
1
2
3
5
8
13
21
34
55

PL/SQL procedure successfully completed.
```

6

```
SQL> set serveroutput on;
SQL> declare
  2  a integer;
  3  b integer;
  4  c integer;
  5  begin
  6  a:=&a;
  7  b:=&b;
  8  c:=a+b;
  9  dbms_output.put_line(c);
 10  end;
 11  /
Enter value for a: 5
old   6: a:=&a;
new   6: a:=5;
Enter value for b: 6
old   7: b:=&b;
new   7: b:=6;
11

PL/SQL procedure successfully completed.
```

8

```
SQL> set serveroutput on;
SQL> declare
  2  num int:=0;
  3  i int;
  4  s int:=0;
  5  r int;
  6  begin
  7  num:=&num;
  8  while num>0 loop
  9  r:=mod(num, 10);
 10  s:=s+r;
 11  num:=floor(num/10);
 12  end loop;
 13  dbms_output.put_line('Sum of Digits:' || s);
 14  end;
 15  /
Enter value for num: 5364
old   7: num:=&num;
new   7: num:=5364;
Sum of Digits:18

PL/SQL procedure successfully completed.
```