

# DBMS

## Assignment-1

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

```
create table employeeega(empno number,ename varchar(10),designation varchar(10),salary number);
```

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

```
desc employeeega;
```

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

```
create table emp as select * from employeeega;
```

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

```
create table emp1 as select empno, salary from employeeega;
```

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

```
create table emp2 as select * from employeeega where 1=2;
```

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

```
alter table employeeega modify empno number(6);
```

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

```
alter table employeeega modify (empno number(10), ename varchar2(15));
```

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

```
alter table employeeega add DOJ date;
```

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

```
alter table employeeega add (DOB date, age number(2));
```

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

```
alter table employeeega drop column age;
```

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

```
alter table employeeega drop (ename, salary);
```

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

```
alter table employee rename to emp;
```

## Assignment-2

1. Create a table employee with attributes emp\_id, f\_name, l\_name, job\_type, salary, dept, commission, manager\_id.

```
create table employeee(  
  emp_id number(5),  
  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.

```
alter table employeee  
add constraint employeee_pk primary key (emp_id);
```

3. Make f\_name and salary NOT NULL type.

```
alter table employeee modify f_name varchar2(10) NOT NULL;  
alter table employeee modify salary number(10) NOT NULL;
```

4. Add a column date\_of\_joining in the employee table.

```
alter table employeee add date_of_joining date;
```

5. Create a table department with attribute d\_name, d\_loc and HOD\_id where d\_name is primary key.

```
create table department(  
  d_name varchar2(10) primary key,  
  d_loc varchar2(10),  
  HOD_id number(5));
```

6. Create a table location with attributes loc\_id, city and contact\_no.

```
create table location(  
  loc_id number(5),  
  city number(10),  
  contact_no number(10));
```

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

```
alter table location modify city number(15);
```

8. Delete the contact\_no attribute from the location table.

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

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

```
alter table employee add constraint employee_to_dept_fk foreign key (dept) references department;
```

10. Rename the city attribute to 'address' in the location table.

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

11. Rename the location table name to 'loc'.

```
alter table location rename to loc;
```

12. Insert the following rows in 'loc' table

loc_id	address
1	Kolkata
2	Mumbai

```
insert into loc (loc_id,address) values(1,'Kolkata');  
insert into loc (loc_id,address) values(2,'Mumbai');
```

13. Truncate the table 'loc'.

```
Truncate table loc;
```

14. Drop the table 'loc'

```
drop table loc;
```

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

```
insert into department (d_name,d_loc,HOD_id) values('Sales','Kol',4);  
insert into department (d_name,d_loc,HOD_id) values('Accounts','Delhi',6);  
insert into department (d_name,d_loc,HOD_id) values('Production','Kol',1);  
insert into department (d_name,d_loc,HOD_id) values('Marketing','Kol',2);  
insert into department (d_name,d_loc,HOD_id) values('R&D','Marketing',8);
```

16. Insert the following rows in the employee table

Emp_id	Fname	Lname	Job_Type	Salary	Commission	Dept	Manager_id	DOJ
1	Arun	Khan	Manager	90000		Production		04-Jan-1998
2	Barun	Kumar	Manager	80000		Marketing		09-Feb-1998 <sup>Sunday 02</sup>
3	Chitra	Kapoor	Engineer	60000		Production	1	08-Jan-1998
4	Dheeraj	Mishra	Manager	75000		Sales	4	27-Dec-2001
5	Emma	Dutt	Engineer	55000		Production	1	20-Mar-2002
6	Floki	Dutt	Accountant	70000		Accounts		16-Jul-2000
7	Deeraj	Kumar	Clerk	40000		Accounts	6	01-Jul-2016
8	Saul	Good	Engineer	60000		R&D		06-Sep-2014
9	Mou	Bhat	Clerk	30000		Sales	4	08-Mar-2018
10	Sunny	Deol	Salesman	20000	10000	Marketing	2	31-Mar-2001
11	Bobby	Deol	Engineer	35000		R&D	8	17-Oct-2017
12	Aamir	Khan	Salesman	15000	5000	Marketing	2	11-Jan-2013

```

alter table employee rename column date_of_joining to doj;
alter table employee drop constraint employee_pk drop constraint EMPLOYEE_TO_DEPT_FK;
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,doj) values(1,'Arun','Khan','Manager',90000,'Production','04-JAN-1998');
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,doj) values(2,'Barun','Kumar','Manager',80000,'Marketing','09-FEB-1998');
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,manager_id,doj) values(3,'Chitra','Kapoor','Engineer',60000,'Production',1,08-JAN-1998);
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,manager_id,doj) values(4,'Deeraj','Mishra','Manager',75000,'Sales',4,27-DEC-2001);
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,manager_id,doj) values(5,'Emma','Dutta','Engineer',55000,'Production',1,20-MAR-2002);
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,doj) values(6,'Chinaswami','Iyer','Accounts',70000,'Accounts','16-JUL-2000');
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,manager_id,doj) values(7,'Deeraj','Kumar','Clerk',40000,'Accounts',6,01-JUL-2016);
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,doj) values(8,'Mr.','Paul','Engineer',60000,'RandD','06-SEP-2014');
insert into employee(emp_id,f_name,l_name,job_type,salary,dept,manager_id,doj) values(9,'Raj','Mishra','Clerk',30000,'Sales',4,08-MAR-2018);
insert into employee(emp_id,f_name,l_name,job_type,salary,commission,dept,manager_id,doj) values(10,'Sunny','Deol','Salesman',20000,10000,'Marketing',2,31-MAR-2001);
insert into employee(emp_id,f_name,l_name,job_type,salary,commission,dept,manager_id,doj) values(11,'Bobby','Deol','Engineer',35000,5000,'R&D',8,17-OCT-2017);
insert into employee(emp_id,f_name,l_name,job_type,salary,commission,dept,manager_id,doj) values(12,'Choton','Khan','Salesman',15000,5000,'Marketing',2,11-JAN-2013);

```

17. Show the values of departmental table

```
select * from department;
```

18. Select the department names and their locations.

```
select d_name, d_loc from department;
```

19. Show the employees f\_name, l\_name, salary and the salary after 1000rs. Bonus.

```
select f_name,l_name,salary, salary+1000, commission from employee;
```

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

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

21. Show f\_name as NAME and annual salary as ANNSAL from the employee table

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

22. Show the l\_name as LasT AND 100rs. Incremented salary as NewSal.

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

23. Show the emp\_id, f\_name, l\_name, job\_type of the employee getting highest salary.

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

24. Show the emp\_id, f\_name, l\_name, job\_type of the employee getting minimum salary.

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

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

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

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

ii. Enter atleast five tuples for each relation

iii. Demonstrate how you a. Update the damage amount for the car with a specific regno in accident with report number 12 to 25000 b. Add a new accident to the database

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

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

```
SQL> create table person(driver_id varchar(10),name varchar(10),address varchar(10),primary key(driver_id));
```

```
SQL> create table car(regno varchar(10),model varchar(10),year int,primary key(regno));
```

```
SQL> create table accident(report_number int,accd_date date,location varchar(10),primary key(report_number));
```

```
SQL> create table owns(driver_id varchar(10),regno varchar(10),primary key(driver_id,regno),foreign key(driver_id) references person(driver_id));
```

```
SQL> create table participated(driver_id varchar(10),regno varchar(10),report_number int,damage_amount int,primary key(driver_id,regno,report_number));
```

### Assignment- 3

1. Consider the following employee table and execute the queries based on it

Emp_id	Fname	Lname	Job_Type	Salary	Commission	Dept	Manager_id	DOJ
1	Arun	Khan	Manager	90000		Production		04-Jan-1998
2	Barun	Kumar	Manager	80000		Marketing		09-Feb-1998
3	Chitra	Kapoor	Engineer	60000		Production	1	08-Jan-1998
4	Dheeraj	Mishra	Manager	75000		Sales	4	27-Dec-2001
5	Emma	Dutt	Engineer	55000		Production	1	20-Mar-2002
6	Floki	Dutt	Accountant	70000		Accounts		16-Jul-2000
7	Dheeraj	Kumar	Clerk	40000		Accounts	6	01-Jul-2016
8	Saul	Good	Engineer	60000		R&D		06-Sep-2014
9	Mou	Bhat	Clerk	30000		Sales	4	08-Mar-2018
10	Sunny	Deol	Salesman	20000	10000	Marketing	2	31-Mar-2001
11	Bobby	Deol	Engineer	35000		R&D	8	17-Oct-2017
12	Amir	Khan	Salesman	15000	5000	Marketing	2	11-Jan-2013

1. Show f\_name, l\_name and job\_type from employees.

```
select f_name, l_name, Job_type from employee;
```

2. Show employee details in the following fashion:

Employee details  
Arun is a manager

```
select 'Employee details' || chr(10) || f_name || ' is a manager' from employee;
```

3. Show the monthly salary details in the following fashion

Monthly Salary Details  
Arun's monthly salary is Rs. 90000

```
select 'Monthly Salary Details' || chr(10) || f_name || 's monthly salary is Rs. ' || salary from employee;
```

Consider the Department table to answer the queries

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

4. Show the different department names from department table

```
select d_name from Department;
```

5. Show the employee names who works in 'Sales'

```
select f_name, l_name from Employeee where dept='Sales';
```

6. Show the employee names who gets salary of more than 50000 per month

```
select f_name from employeee where salary>50000;
```

7. Show the details of the employee whose manager id is not 1

```
select * from employeee where manager_id!=1;
```

8. Show the employee details whose salary ranges between 40000 and 70000

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

9. Show the details of the employees who works under the manager having id 1, 6 and 8

```
select * from employeee where manager_id in (1,6,8);
```

10. Select the f\_name and salary of those employees whose last name starts with 'K'

```
select f_name, salary from employeee where l_name like 'K%';
```

11. Select the f\_name and salary of those employees whose last name starts with 'K' and ends with 'R'

```
select f_name, salary from employeee where l_name like 'K%' and l_name like '%r';
```

12. Show the details of those employees where 3rd letter of l\_name is 'o'

```
select * from employeee where l_name like '___o%';
```

13. Select the details of those employees who works as an engineer with monthly salary more than 50000;

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

14. Select the employees whose department is 'Production' or monthly salary is more than 60000 per month.

```
select * from employeee where dept='Production' or Salary>60000;
```

15. Find the minimum salary, maximum salary, total salary, average salary of the employees who work in 'Sales' department.

```
select min(salary),max(salary),sum(salary),avg(salary) from employeee where job_type='Engineer';
```

16. Find the employee l\_name that is first and f\_name that is last if they are arranged in an order

```
select f_name, l_name from employee order by f_name ASC;
```

17. Find the number of employees working in each department

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

18. Find the number of departments from employee table

```
select count(dept) from employee;
```

19. Find the average commission of the employees

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

20. Find the average salaries of the employees department wise

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

21. Find the sum of salary of different job\_type according to different departments

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

22. Find the department name and average salaries of those departments whose average salary is greater than 40000.

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

23. Find the department name and maximum salaries of those departments whose maximum salary is greater than 55000

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

24. Display the job\_type and total monthly salary for each job\_type where total payroll is exceeding 100000

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

25. Display the name of the department having maximum average salary

```
select f_name, l_name from employee group by department having max(avg(salary));
```

#### Assignment 5

1. Show the use of upper and lower function



```
select upper(f_name), lower(l_name) from employee;
```

2. Show the use of concat, instr and length function

```
select
```