

# DBMS Lab Exercise-3

**Sandip Datta**

**21BCE1163**

Create table “Employee” and insert atleast 10-20 records. Set Empid as primary key.

```
create table Employee_21BCE1163(empid number(4),ename varchar(15) NOT NULL, department  
varchar(15) NOT NULL,grade varchar(3) check(grade='A' OR grade='B' OR grade='C'),bpay  
number(10,2),spay number(10,2),bpoints number(5,2), hdate date, primary key  
(empid),check(department='HR' or department='Testing' or department='Developement'));
```

```
desc Employee_21BCE1163;
```

TABLE EMPLOYEE\_21BCE1163

Column	Null?	Type
EMPID	NOT NULL	NUMBER(4,0)
ENAME	NOT NULL	VARCHAR2(15)
DEPARTMENT	NOT NULL	VARCHAR2(15)
GRADE	-	VARCHAR2(3)
BPAY	-	NUMBER(10,2)
SPAY	-	NUMBER(10,2)
BPOINTS	-	NUMBER(5,2)
HDATE	-	DATE

```
insert into Employee_21BCE1163 values(2111,'Sandip','HR','A',55000.50,60000.75,5.21,'16-apr-  
2023');
```

```
insert into Employee_21BCE1163
values(2112,'Ramu','Developement','B',40000.50,46000.75,6.21,'23-may-2023');

insert into Employee_21BCE1163 values(2113,'Shamu','HR','A',45500.50,49000.75,5.21,'12-jul-
2003');

insert into Employee_21BCE1163
values(2114,'Rohan','Developement','A',40000.50,46000.75,7.21,'17-aug-2022');

insert into Employee_21BCE1163 values(2115,'Rohit','HR','C',49870.50,56000.75,5.21,'30-sep-
2003');

insert into Employee_21BCE1163 values(2116,'Shneur','Testing','A',40000.50,46000.75,8.71,'02-jul-
2018');

insert into Employee_21BCE1163 values(2117,'Naman','HR','B',35000.50,40000.75,5.91,'19-jan-
2012');

insert into Employee_21BCE1163 values(2118,'Daya','Testing','A',42000.50,46000.75,8.91,'12-dec-
2019');

insert into Employee_21BCE1163
values(2119,'Sunosh','Developement','C',43000.50,58000.75,7.81,'14-oct-2020');

insert into Employee_21BCE1163 values(2120,'Ananya','HR','A',49000.50,58000.75,8.65,'10-nov-
2020');

insert into Employee_21BCE1163 values(2121,'Shivang','Testing','B',50000.50,55000.75,6.87,'23-
dec-2020');

insert into Employee_21BCE1163 values(2122,'SHivansh','HR','B',55000.50,66000.75,7.21,'16-jan-
2021');

insert into Employee_21BCE1163
values(2123,'Vaidhy','Developement','A',46700.50,56000.75,9.21,'17-jul-2021');

select * from Employee_21BCE1163;
```

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23
2112	Ramu	Developement	B	40000.5	46000.75	6.21	23-MAY-23
2113	Shamu	HR	A	45500.5	49000.75	5.21	12-JUL-03
2114	Rohan	Developement	A	40000.5	46000.75	7.21	17-AUG-22
2115	Rohit	HR	C	49870.5	56000.75	5.21	30-SEP-03
2116	Shneur	Testing	A	40000.5	46000.75	8.71	02-JUL-18
2117	Naman	HR	B	35000.5	40000.75	5.91	19-JAN-12
2118	Daya	Testing	A	42000.5	46000.75	8.91	12-DEC-19
2119	Sunosh	Developement	C	43000.5	58000.75	7.81	14-OCT-20
2120	Ananya	HR	A	49000.5	58000.75	8.65	10-NOV-20
2121	Shivang	Testing	B	50000.5	55000.75	6.87	23-DEC-20

1. List the employee details in “ Testing“ department.
2. Calculate the average salary of all employees in “HR” department
3. Count number of employees in “ Developement” department and with “B” grade.
4. Calculate the total salary of all employees

```
select * from Employee_21BCE1163 where department='Testing';
```

```
select avg(spays)
```

```
from Employee_21BCE1163
```

```
where department='HR';
```

```
select count(empid) from Employee_21BCE1163
```

```
where department='Developement' and grade='b';
```

```
select sum(spays) from Employee_21BCE1163;
```



```
select min(spay) from Employee_21BCE1163 where department='HR';
```

```
select * from Employee_21BCE1163 where bpoints=(select min(bpoints)from  
Employee_21BCE1163);
```

```
select empid, bpoints*bpay as bamount from Employee_21BCE1163;
```

```
select ceil(bpoints) as ceil,floor(bpoints) as floor,round(bpoints) as round,trunc(bpoints) as trunc  
from Employee_21BCE1163;
```

```
select spay+(bpay*bpoints) as tsalary from Employee_21BCE1163;
```

```
select count(empid) from Employee_21BCE1163 where spay>45000;
```

MIN(SPAY)
40000.75

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23
2113	Shamu	HR	A	45500.5	49000.75	5.21	12-JUL-03
2115	Rohit	HR	C	49870.5	56000.75	5.21	30-SEP-03

EMPID	BAMOUNT
2111	286552.605
2112	248403.105
2113	237057.605
2114	288403.605
2115	259825.305
2116	348404.355
2117	206852.955
2118	374224.455
2119	335833.905
2120	423854.325

2121	343503.435
2122	396553.605
2123	430111.605

CEIL	FLOOR	ROUND	TRUNC
6	5	5	5
7	6	6	6
6	5	5	5
8	7	7	7
6	5	5	5
9	8	9	8
6	5	6	5
9	8	9	8
8	7	8	7
9	8	9	8
7	6	7	6

7	6	7	6
8	7	7	7
10	9	9	9

TSALARY
346553.355
294403.855
286058.355
334404.355
315826.055
394405.105
246853.705
420225.205
393834.655
481855.075
398504.185
462554.355

486112.355
------------

COUNT(EMPID)
12



10. How many employees earn salary in the range between 30k and 40k
11. Count number of employees in each department
12. List the emp ID and name for all employees whose salary is more than average.
13. List the distinct department names
14. Sort the relation with respect to the Salary in descending order.
15. Select the content of the "NAME" and "SALARY" columns from employee table, and convert the "NAME" column to lowercase.

```
select department, count(*) from Employee_21BCE1163 group by department;
```

```
select empid, ename from Employee_21BCE1163 where spay > (select (avg(spay)) from Employee_21BCE1163);
```

```
select distinct(department) from Employee_21BCE1163;
```

```
select * from Employee_21BCE1163 order by spay desc;
```

```
select lower(ename), spay from Employee_21BCE1163;
```

DEPARTMENT	COUNT(*)
Testing	3
HR	6
Developement	4

EMPID	ENAME
2111	Sandip
2115	Rohit
2119	Sunosh
2120	Ananya
2121	Shivang
2122	SHivansh
2123	Vaidhy

DEPARTMENT
Testing
HR
Developement

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2122	SHivansh	HR	B	55000.5	66000.75	7.21	16-JAN-21
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23
2120	Ananya	HR	A	49000.5	58000.75	8.65	10-NOV-20
2119	Sunosh	Developement	C	43000.5	58000.75	7.81	14-OCT-20
2115	Rohit	HR	C	49870.5	56000.75	5.21	30-SEP-03
2123	Vaidhy	Developement	A	46700.5	56000.75	9.21	17-JUL-21
2121	Shivang	Testing	B	50000.5	55000.75	6.87	23-DEC-20
2113	Shamu	HR	A	45500.5	49000.75	5.21	12-JUL-03
2118	Daya	Testing	A	42000.5	46000.75	8.91	12-DEC-19
2114	Rohan	Developement	A	40000.5	46000.75	7.21	17-AUG-22

2112	Ramu	Developement	B	40000.5	46000.75	6.21	23-MAY-23
2116	Shneur	Testing	A	40000.5	46000.75	8.71	02-JUL-18
2117	Naman	HR	B	35000.5	40000.75	5.91	19-JAN-12

LOWER(ENAME)	SPAY
sandip	60000.75
ramu	46000.75
shamu	49000.75
rohan	46000.75
rohit	56000.75
shneur	46000.75
naman	40000.75
daya	46000.75
sunosh	58000.75
ananya	58000.75
shivang	55000.75

shivansh	66000.75
vaidhy	56000.75

16. List the departments in which the average salary of the employees is greater than 40,000
17. Lists the number of employees in each department and group by their departments (Use Group by)
18. Lists the number of employees in each department and group by their departments and order by - sorted high to low.

19. List the number of employees in each department. Only include department with more than 3 employees. (use having clause)

20. Display the department name starts with 'H'

21. Display the employee names ends with 'y'

```
select department from Employee_21BCE1163 a where(select avg(spay) from Employee_21BCE1163 a2 where a2.department=a.department)>40000 group by department;
```

```
select department, count(empid) from Employee_21BCE1163 group by department;
```

```
select department, count(empid) from Employee_21BCE1163 group by department order by count(empid) desc;
```

```
select department, count(empid) from Employee_21BCE1163 group by department having count(empid)>3;
```

```
select distinct(department) from Employee_21BCE1163 where department like 'H%';
```

```
select ename from Employee_21BCE1163 where ename like '%y';
```

DEPARTMENT
Testing
HR
Developement

DEPARTMENT	COUNT(EMPID)
Testing	3
HR	6
Developement	4

DEPARTMENT	COUNT (EMPID)
HR	6
Developement	4
Testing	3

DEPARTMENT	COUNT (EMPID)
HR	6
Developement	4

DEPARTMENT
HR

ENAME
Vaidhy

22.Display the employee details in Grade is not “B”

23.Display the employee details who joined in month of “April”

24. Display the employee details who joined after the year 2010

25. Display the employee details who joined after year 1990 but not later 2005.

26. Display the total experience of the employee till current date. (in years) from the date of hire.

select \* from Employee\_21BCE1163 where grade!='B';

select \* from Employee\_21BCE1163 where extract (month from hdate)=04;

select \* from Employee\_21BCE1163 where extract(year from hdate)>2010;

select \* from Employee\_21BCE1163 where extract(year from hdate)>1990 and extract(year from hdate)<=2005;

select ename,2023-extract(year from hdate ) as experience from Employee\_21BCE1163;

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23
2113	Shamu	HR	A	45500.5	49000.75	5.21	12-JUL-03
2114	Rohan	Developement	A	40000.5	46000.75	7.21	17-AUG-22
2115	Rohit	HR	C	49870.5	56000.75	5.21	30-SEP-03
2116	Shneur	Testing	A	40000.5	46000.75	8.71	02-JUL-18
2118	Daya	Testing	A	42000.5	46000.75	8.91	12-DEC-19
2119	Sunosh	Developement	C	43000.5	58000.75	7.81	14-OCT-20
2120	Ananya	HR	A	49000.5	58000.75	8.65	10-NOV-20
2123	Vaidhy	Developement	A	46700.5	56000.75	9.21	17-JUL-21

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2111	Sandip	HR	A	55000.5	60000.75	5.21	16-APR-23
2112	Ramu	Developement	B	40000.5	46000.75	6.21	23-MAY-23
2114	Rohan	Developement	A	40000.5	46000.75	7.21	17-AUG-22
2116	Shneur	Testing	A	40000.5	46000.75	8.71	02-JUL-18
2117	Naman	HR	B	35000.5	40000.75	5.91	19-JAN-12
2118	Daya	Testing	A	42000.5	46000.75	8.91	12-DEC-19
2119	Sunosh	Developement	C	43000.5	58000.75	7.81	14-OCT-20
2120	Ananya	HR	A	49000.5	58000.75	8.65	10-NOV-20

2121	Shivang	Testing	B	50000.5	55000.75	6.87	23-DEC-20
2122	SHivansh	HR	B	55000.5	66000.75	7.21	16-JAN-21
2123	Vaidhy	Developement	A	46700.5	56000.75	9.21	17-JUL-21

EMPID	ENAME	DEPARTMENT	GRADE	BPAY	SPAY	BPOINTS	HDATE
2113	Shamu	HR	A	45500.5	49000.75	5.21	12-JUL-03
2115	Rohit	HR	C	49870.5	56000.75	5.21	30-SEP-03



ENAME	EXPERIENCE
Sandip	0
Ramu	0
Shamu	20
Rohan	1
Rohit	20
Shneur	5
Naman	11
Daya	4
Sunosh	3
Ananya	3
Shivang	3
SHivansh	2
Vaidhy	2

WHOLE CODE:

```
create table Employee_21BCE1163(empid number(4),ename varchar(15) NOT NULL, department
varchar(15) NOT NULL,grade varchar(3) check(grade='A' OR grade='B' OR grade='C'),bpay
number(10,2),spay number(10,2),bpoints number(5,2), hdate date, primary key
(empid),check(department='HR' or department='Testing' or department='Developement'));
```

```
desc Employee_21BCE1163;
```

```
insert into Employee_21BCE1163 values(2111,'Sandip','HR','A',55000.50,60000.75,5.21,'16-apr-2023');
```

```
insert into Employee_21BCE1163  
values(2112,'Ramu','Developement','B',40000.50,46000.75,6.21,'23-may-2023');
```

```
insert into Employee_21BCE1163 values(2113,'Shamu','HR','A',45500.50,49000.75,5.21,'12-jul-2003');
```

```
insert into Employee_21BCE1163  
values(2114,'Rohan','Developement','A',40000.50,46000.75,7.21,'17-aug-2022');
```

```
insert into Employee_21BCE1163 values(2115,'Rohit','HR','C',49870.50,56000.75,5.21,'30-sep-2003');
```

```
insert into Employee_21BCE1163 values(2116,'Shneur','Testing','A',40000.50,46000.75,8.71,'02-jul-2018');
```

```
insert into Employee_21BCE1163 values(2117,'Naman','HR','B',35000.50,40000.75,5.91,'19-jan-2012');
```

```
insert into Employee_21BCE1163 values(2118,'Daya','Testing','A',42000.50,46000.75,8.91,'12-dec-2019');
```

```
insert into Employee_21BCE1163  
values(2119,'Sunosh','Developement','C',43000.50,58000.75,7.81,'14-oct-2020');
```

```
insert into Employee_21BCE1163 values(2120,'Ananya','HR','A',49000.50,58000.75,8.65,'10-nov-2020');
```

```
insert into Employee_21BCE1163 values(2121,'Shivang','Testing','B',50000.50,55000.75,6.87,'23-dec-2020');
```

```
insert into Employee_21BCE1163 values(2122,'SHivansh','HR','B',55000.50,66000.75,7.21,'16-jan-2021');
```

```
insert into Employee_21BCE1163  
values(2123,'Vaidhy','Developement','A',46700.50,56000.75,9.21,'17-jul-2021');
```

```
select * from Employee_21BCE1163;
```

```
select * from Employee_21BCE1163 where department='Testing';
```

```
select avg(spay)
```

```
from Employee_21BCE1163
```

```
where department='HR';
```

```
select count(empid) from Employee_21BCE1163
```

```
where department='Developement' and grade='B';
```

```

select sum(spay) from Employee_21BCE1163;

select min(spay) from Employee_21BCE1163 where department='HR';

select * from Employee_21BCE1163 where bpoints=(select min(bpoints)from
Employee_21BCE1163);

select empid, bpoints*bpay as bamount from Employee_21BCE1163;

select ceil(bpoints) as ceil,floor(bpoints) as floor,round(bpoints) as round,trunc(bpoints) as trunc
from Employee_21BCE1163;

select spay+(bpay*bpoints) as tsalary from Employee_21BCE1163;

select count(empid) from Employee_21BCE1163 where spay>45000;

select department,count(*) from Employee_21BCE1163 group by department;

select empid, ename from Employee_21BCE1163 where spay>(select(avg(spay))from
Employee_21BCE1163);

select distinct(department) from Employee_21BCE1163;

select * from Employee_21BCE1163 order by spay desc;

select lower(ename), spay from Employee_21BCE1163;

select department from Employee_21BCE1163 a where(select avg(spay) from Employee_21BCE1163
a2 where a2.department=a.department)>40000 group by department;

select department, count(empid) from Employee_21BCE1163 group by department;

select department, count(empid) from Employee_21BCE1163 group by department order by
count(empid) desc;

select department, count(empid) from Employee_21BCE1163 group by department having
count(empid)>3;

select distinct(department) from Employee_21BCE1163 where department like 'H%';

select ename from Employee_21BCE1163 where ename like '%y';

select * from Employee_21BCE1163 where grade!='B';

select * from Employee_21BCE1163 where extract (month from hdate)=04;

select * from Employee_21BCE1163 where extract(year from hdate)>2010;

select * from Employee_21BCE1163 where extract(year from hdate)>1990 and extract(year from
hdate)<=2005;

select ename,2023-extract(year from hdate ) as experience from Employee_21BCE1163;

```

## SQL Worksheet



Actions ▾



```
1 create table Employee_218CE1163(empid number(4),ename varchar(15) NOT NULL, department varchar(15) NOT NULL,grade varchar(3) check(grade='A' OR grade='B' OR grade='C'),bpay number(10,2),spay number(10,2),bpoints number(5,2), hdate date, primary
2 desc Employee_218CE1163;
3 insert into Employee_218CE1163 values(2111,'Sandip','HR','A',55000.50,60000.75,5.21,'16-apr-2023');
4 insert into Employee_218CE1163 values(2112,'Kamu','Development','B',40000.50,46000.75,6.21,'23-may-2023');
5 insert into Employee_218CE1163 values(2113,'Shamu','HR','A',45500.50,40000.75,5.21,'12-jul-2003');
6 insert into Employee_218CE1163 values(2114,'Rohan','Development','A',40000.50,46000.75,7.21,'17-aug-2022');
7 insert into Employee_218CE1163 values(2115,'Rohit','HR','C',49870.50,56000.75,5.21,'30-sep-2003');
8 insert into Employee_218CE1163 values(2116,'Shneur','Testing','A',40000.50,46000.75,6.71,'02-jul-2018');
9 insert into Employee_218CE1163 values(2117,'Naman','HR','B',35000.50,40000.75,5.01,'10-jan-2012');
10 insert into Employee_218CE1163 values(2118,'Daya','Testing','A',42000.50,46000.75,8.91,'12-dec-2019');
11 insert into Employee_218CE1163 values(2119,'Sunosh','Development','C',43000.50,58000.75,7.81,'14-oct-2028');
12 insert into Employee_218CE1163 values(2120,'Ananya','HR','A',49000.50,58000.75,6.65,'18-nov-2020');
13 insert into Employee_218CE1163 values(2121,'Shivang','Testing','B',58000.50,55000.75,6.07,'23-dec-2028');
14 insert into Employee_218CE1163 values(2122,'Srivansh','HR','B',55000.50,66000.75,7.21,'16-jan-2021');
15 insert into Employee_218CE1163 values(2123,'Vaidhy','Development','A',46700.50,56000.75,9.21,'17-jul-2021');
16 select * from Employee_218CE1163;
17 select * from Employee_218CE1163 where department='Testing';
18 select avg(spay)
19 from Employee_218CE1163
20 where department='HR';
21 select count(empid) from Employee_218CE1163
22 where department='Development' and grade='B';
23 select sum(spay) from Employee_218CE1163;
24 select min(spay) from Employee_218CE1163 where department='HR';
25 select * from Employee_218CE1163 where bpoints=(select min(bpoints)from Employee_218CE1163);
26 select empid, bpoints*bpay as bamount from Employee_218CE1163;
27 select ceil(bpoints) as ceil,floor(bpoints) as floor,round(bpoints) as round,trunc(bpoints) as trunc from Employee_218CE1163;
28 select spay*(bpay*bpoints) as tsalary from Employee_218CE1163;
29 select count(empid) from Employee_218CE1163 where spay>40000;
```

```
19 from Employee_218CE1163
20 where department='HR';
21 select count(empid) from Employee_218CE1163
22 where department='Development' and grade='B';
23 select sum(spay) from Employee_218CE1163;
24 select min(spay) from Employee_218CE1163 where department='HR';
25 select * from Employee_218CE1163 where bpoints=(select min(bpoints)from Employee_218CE1163);
26 select empid, bpoints*bpay as bamount from Employee_218CE1163;
27 select ceil(bpoints) as ceil,floor(bpoints) as floor,round(bpoints) as round,trunc(bpoints) as trunc from Employee_218CE1163;
28 select spay*(bpay*bpoints) as tsalary from Employee_218CE1163;
29 select count(empid) from Employee_218CE1163 where spay>40000;
30 select department,count(*) from Employee_218CE1163 group by department;
31 select empid, ename from Employee_218CE1163 where spay=(select(avg(spay))from Employee_218CE1163);
32 select distinct(department) from Employee_218CE1163;
33 select * from Employee_218CE1163 order by spay desc;
34 select lower(ename), spay from Employee_218CE1163;
35 select department from Employee_218CE1163 a where(select avg(spay) from Employee_218CE1163 a2 where a2.department=a.department)>40000 group by department;
36 select department, count(empid) from Employee_218CE1163 group by department;
37 select department, count(empid) from Employee_218CE1163 group by department order by count(empid) desc;
38 select department, count(empid) from Employee_218CE1163 group by department having count(empid)>3;
39 select distinct(department) from Employee_218CE1163 where department like 'HR';
40 select ename from Employee_218CE1163 where ename like 'S%';
41 select * from Employee_218CE1163 where grade='B';
42 select * from Employee_218CE1163 where extract(month from hdate)=04;
43 select * from Employee_218CE1163 where extract(year from hdate)>2018;
44 select * from Employee_218CE1163 where extract(year from hdate)>1990 and extract(year from hdate)<=2005;
45 select ename,2023-extract(year from hdate ) as experience from Employee_218CE1163;
46
```