**********DBMS WORKSHEET-1 **********

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Q1 - a) Create the table orders with columns order_no number type, purch_amt number (precision, scale), ord_date date, customer_id number and salesman_id number.

Ans1 –

Code -

SQL Worksheet

```
1  create table orders
2  (ord_no number(10), purch_amt number(10,2), ord_date date,
3  customer_id number(10), salesman_id number(10));
4
5  desc orders
6
```

Output –

Table created.

TABLE ORDERS

Column	Null?	Type
ORD_NO	-	NUMBER(10,0)
PURCH_AMT	-	NUMBER(10,2)
ORD_DATE	-	DATE
CUSTOMER_ID	-	NUMBER(10,0)
SALESMAN_ID	-	NUMBER(10,0)

Download CSV

5 rows selected.

b) Insert the values as given in the table.

Ans –

Code -

SQL Worksheet

```
1  create table orders
2  (ord_no number(10), purch_amt number(10,2), ord_date date,
3  customer_id number(10), salesman_id number(10));
4
5  desc orders
6
7  insert into orders values(70001,150.5,'5-oct-2012',3005,5002);
8  insert into orders values(70009,270.65,'10-sep-2012',3001,5005);
9  insert into orders values(70002,65.26,'5-oct-2012',3002,5001);
10 insert into orders values(70004,110.5,'17-aug-2012',3009,5003);
11 insert into orders values(70007,948.5,'10-sep-2012',3005,5002);
12 insert into orders values(70005,2400.6,'27-jul-2012',3007,5001);
13 insert into orders values(70008,5760,'10-sep-2012',3002,5001);
14 insert into orders values(70010,1983.43,'10-oct-2012',3004,5006);
15 insert into orders values(70003,2480.4,'10-oct-2012',3009,5003);
16 insert into orders values(70012,250.45,'27-jun-2012',3008,5002);
17 insert into orders values(70011,75.29,'17-aug-2012',3003,5007);
18 insert into orders values(70013,3045.6,'25-apr-2012',3002,5001);
19
20 select * from orders
```

Output –

SQL Worksheet

ORD_NO	PURCH_AMT	ORD_DATE	CUSTOMER_ID	SALESMAN_ID
70004	110.5	17-AUG-12	3009	5003
70007	948.5	10-SEP-12	3005	5002
70010	1983.43	10-OCT-12	3004	5006
70008	5760	10-SEP-12	3002	5001
70009	270.65	10-SEP-12	3001	5005
70002	65.26	05-OCT-12	3002	5001
70001	150.5	05-OCT-12	3005	5002
70011	75.29	17-AUG-12	3003	5007
70005	2400.6	27-JUL-12	3007	5001
70003	2480.4	10-OCT-12	3009	5003
70012	250.45	27-JUN-12	3008	5002
70013	3045.6	25-APR-12	3002	5001

Download CSV

12 rows selected.

c) Add customer name, email address and contact_number columns in the given table

Code -

```
22  alter table orders add Customer_name varchar2(30);
23  alter table orders add Email_address varchar2(30);
24  alter table orders add Contact_number number(30);4
25
```

Output –

```
Table altered.
```

d) Add column gender in the table with a single character value.

Code -

```
25
26  alter table orders add gender varchar2(1);
27
```

Output –

SQL Worksheet

TABLE ORDERS

Column	Null?	Type
ORD_NO	-	NUMBER(10,0)
PURCH_AMT	-	NUMBER(10,2)
ORD_DATE	-	DATE
CUSTOMER_ID	-	NUMBER(10,0)
SALESMAN_ID	-	NUMBER(10,0)
CUSTOMER_NAME	-	VARCHAR2(30)
EMAIL_ADDRESS	-	VARCHAR2(30)
CONTACT_NUMBER	-	NUMBER(30,0)
GENDER	-	VARCHAR2(1)

Download CSV

9 rows selected.

e) Update the values of newly added columns in the records

Ans –

Code -

```
update orders set Customer_name = 'Rakesh',Email_address = 'rakesh92@gmail.com',Contact_number = '9392839128',gender = 'M' where Ord_no = 70001;
update orders set Customer_name = 'Ajay',Email_address = 'ajay292@gmail.com',Contact_number = '8122839128',gender = 'M' where Ord_no = 70009;
update orders set Customer_name = 'Ashishi',Email_address = 'ashish832@gmail.com',Contact_number = '9392839101',gender = 'M' where Ord_no = 70002;
update orders set Customer_name = 'Anjana',Email_address = 'anjana661@gmail.com',Contact_number = '9392839102',gender = 'F' where Ord_no = 70004;
update orders set Customer_name = 'Alpana',Email_address = 'alpana812@gmail.com',Contact_number = '9392839103',gender = 'F' where Ord_no = 70007;
update orders set Customer_name = 'Anushya',Email_address = 'anushya001@gmail.com',Contact_number = '9392839104',gender = 'F' where Ord_no = 70005;
update orders set Customer_name = 'Shiwam',Email_address = 'shiwam00@gmail.com',Contact_number = '9392839105',gender = 'M' where Ord_no = 70008;
update orders set Customer_name = 'Vikram',Email_address = 'vikram011@gmail.com',Contact_number = '9392839106',gender = 'M' where Ord_no = 70010;
update orders set Customer_name = 'Sparsh',Email_address = 'sparsh012@gmail.com',Contact_number = '9392839407',gender = 'M' where Ord_no = 70003;
update orders set Customer_name = 'Srajan',Email_address = 'srajan121@gmail.com',Contact_number = '9392837208',gender = 'M' where Ord_no = 70012;
update orders set Customer_name = 'Utkarsh',Email_address = 'utkarsh300@gmail.com',Contact_number = '9392332010',gender = 'M' where Ord_no = 70011;
update orders set Customer_name = 'Priya',Email_address = 'priya192@gmail.com',Contact_number = '9912391202',gender = 'F' where Ord_no = 70013;

select * from orders
```

ORD_NO	PURCH_AMT	ORD_DATE	CUSTOMER_ID	SALESMAN_ID	CUSTOMER_NAME	EMAIL_ADDRESS	CONTACT_NUMBER	GENDER
70004	110.5	17-AUG-12	3009	5003	Anjana	anjana661@gmail.com	9392839102	F
70007	948.5	10-SEP-12	3005	5002	Alpana	alpana812@gmail.com	9392839103	F
70010	1983.43	10-OCT-12	3004	5006	Vikram	vikram011@gmail.com	9392839106	M
70008	5760	10-SEP-12	3002	5001	Shiwam	shiwam00@gmail.com	9392839105	M
70009	270.65	10-SEP-12	3001	5005	Ajay	ajay292@gmail.com	8122839128	M
70002	65.26	05-OCT-12	3002	5001	Ashishi	ashish832@gmail.com	9392839101	M
70001	150.5	05-OCT-12	3005	5002	Rakesh	rakesh92@gmail.com	9392839128	M
70011	75.29	17-AUG-12	3003	5007	Utkarsh	utkarsh300@gmail.com	9392332010	M
70005	2400.6	27-JUL-12	3007	5001	Anushya	anushya001@gmail.com	9392839104	F
70003	2480.4	10-OCT-12	3009	5003	Sparsh	sparsh012@gmail.com	9392839407	M
70012	250.45	27-JUN-12	3008	5002	Srajan	srajan121@gmail.com	9392837208	M
70013	3045.6	25-APR-12	3002	5001	Priya	priya192@gmail.com	9912391202	F

Download CSV

12 rows selected.

Q2 - Create table student for the given set of attributes and implement given operations using SQL commands:

1. Create table Student (Rno, Name, DOB, Gender, Class, College,City, Marks)

Code –

SQL Worksheet

```
1  Create table Students
2  (Rno number(10),Student_Name varchar2(20),DOB date,Gender varchar2(1),
3  Student_class varchar2(30),College varchar2(30),City varchar2(30),Marks number(10,2));
4
5  desc Students
6
```

Output –

SQL Worksheet

Table created.

TABLE STUDENTS

Column	Null?	Type
RNO	-	NUMBER(10,0)
STUDENT_NAME	-	VARCHAR2(20)
DOB	-	DATE
GENDER	-	VARCHAR2(1)
STUDENT_CLASS	-	VARCHAR2(30)
COLLEGE	-	VARCHAR2(30)
CITY	-	VARCHAR2(30)
MARKS	-	NUMBER(10,2)

Download CSV

8 rows selected.

2. Insert 5 records in student table

Code -

SQL Worksheet

```
1  Create table Students
2  (Rno number(10),Student_Name varchar2(20),DOB date,Gender varchar2(1),
3  Student_class varchar2(30),College varchar2(30),City varchar2(30),Marks number(10,2));
4
5  desc Students
6
7  insert into Students values(1,'Aajay','18-jun-2001','M','Cse','Chandigarh university','Patiala',96.3);
8  insert into Students values(2,'Aaryan','21-oct-2001','M','Cse','Chandigarh university','Patiala',90.5);
9  insert into Students values(5,'Aarush','18-jun-2001','M','Cse','Chandigarh university','Amritsar',89.9);
10 insert into Students values(9,'Aakelash','18-jun-2001','M','Cse','Chandigarh university','Indore',20.6);
11 insert into Students values(6,'Avantika','18-jun-2001','F','Cse','Chandigarh university','Chandigarh',29.0);
12
13 select * from Students;
14
```

Output –

RNO	STUDENT_NAME	DOB	GENDER	STUDENT_CLASS	COLLEGE	CITY	MARKS
9	Aakelash	18-JUN-01	M	Cse	Chandigarh university	Indore	20.6
2	Aaryan	21-OCT-01	M	Cse	Chandigarh university	Patiala	90.5
5	Aarush	18-JUN-01	M	Cse	Chandigarh university	Amritsar	89.9
6	Avantika	18-JUN-01	F	Cse	Chandigarh university	Chandigarh	29
1	Aajay	18-JUN-01	M	Cse	Chandigarh university	Patiala	96.3

Download CSV

5 rows selected.

3) Display the information of all the students

Code -

SQL Worksheet

```
1  Create table Students
2  (Rno number(10),Student_Name varchar2(20),DOB date,Gender varchar2(1),
3  Student_class varchar2(30),College varchar2(30),City varchar2(30),Marks number(10,2));
4
5  desc Students
6
7  insert into Students values(1,'Aajay','18-jun-2001','M','Cse','Chandigarh university','Patiala',96.3);
8  insert into Students values(2,'Aaryan','21-oct-2001','M','Cse','Chandigarh university','Patiala',90.5);
9  insert into Students values(5,'Aarush','18-jun-2001','M','Cse','Chandigarh university','Amritsar',89.9);
10 insert into Students values(9,'Aakelash','18-jun-2001','M','Cse','Chandigarh university','Indore',20.6);
11 insert into Students values(6,'Avantika','18-jun-2001','F','Cse','Chandigarh university','Chandigarh',29.0);
12
13 select * from Students;
14
```

Output –

RNO	STUDENT_NAME	DOB	GENDER	STUDENT_CLASS	COLLEGE	CITY	MARKS
9	Aakelash	18-JUN-01	M	Cse	Chandigarh university	Indore	20.6
2	Aaryan	21-OCT-01	M	Cse	Chandigarh university	Patiala	90.5
5	Aarush	18-JUN-01	M	Cse	Chandigarh university	Amritsar	89.9
6	Avantika	18-JUN-01	F	Cse	Chandigarh university	Chandigarh	29
1	Aajay	18-JUN-01	M	Cse	Chandigarh university	Patiala	96.3

Download CSV
5 rows selected.

4) Display the detail structure of student table

Code -

SQL Worksheet

```
1  Create table Students
2  (Rno number(10),Student_Name varchar2(20),DOB date,Gender varchar2(1),
3  Student_class varchar2(30),College varchar2(30),City varchar2(30),Marks number(10,2));
4
5  desc Students
6
7  insert into Students values(1,'Aajay','18-jun-2001','M','Cse','Chandigarh university','Patiala',96.3);
8  insert into Students values(2,'Aaryan','21-oct-2001','M','Cse','Chandigarh university','Patiala',90.5);
9  insert into Students values(5,'Aarush','18-jun-2001','M','Cse','Chandigarh university','Amritsar',89.9);
10 insert into Students values(9,'Aakelash','18-jun-2001','M','Cse','Chandigarh university','Indore',20.6);
11 insert into Students values(6,'Avantika','18-jun-2001','F','Cse','Chandigarh university','Chandigarh',29.0);
12
13 select * from Students;
14
15 desc students
```

Output –

Live SQL

SQL Worksheet

TABLE STUDENTS

Column	Null?	Type
RNO	-	NUMBER(10,0)
STUDENT_NAME	-	VARCHAR2(20)
DOB	-	DATE
GENDER	-	VARCHAR2(1)
STUDENT_CLASS	-	VARCHAR2(30)
COLLEGE	-	VARCHAR2(30)
CITY	-	VARCHAR2(30)
MARKS	-	NUMBER(10,2)

Download CSV
8 rows selected.

5) Display Rno, Name and Class information of ‘Patiala’ students

Code -

```
16
17  select Rno,Student_Name,Student_class from Students where City = 'Patiala';
18
```

Output –

RNO	STUDENT_NAME	STUDENT_CLASS
2	Aaryan	Cse
1	Aajay	Cse

Download CSV

2 rows selected.

6) Display information on ascending order of marks

Code –

```
18
19  select * from Students order by Marks asc;
```

Output –

SQL Worksheet

RNO	STUDENT_NAME	DOB	GENDER	STUDENT_CLASS	COLLEGE	CITY	MARKS
9	Aakelash	18-JUN-01	M	Cse	Chandigarh university	Indore	20.6
6	Avantika	18-JUN-01	F	Cse	Chandigarh university	Chandigarh	29
5	Aarush	18-JUN-01	M	Cse	Chandigarh university	Amritsar	89.9
2	Aaryan	21-OCT-01	M	Cse	Chandigarh university	Patiala	90.5
1	Aajay	18-JUN-01	M	Cse	Chandigarh university	Patiala	96.3

Download CSV

5 rows selected.

7) Change the marks of Rno 5 to 89.

Code –

```
21  update Students set Marks = 89 where Rno = 5;
```

Output –

```
1 row(s) updated.
```

8) Change the name and city of R.no 9

Code –

```
22
23  update Students set Student_Name = 'aayush' , City = 'Delhi' where Rno = 9;
```

Output –

```
1 row(s) updated.
```

9) Delete the information of ‘Amritsar’ city records

Code –

```
24
25  delete from Students where City = 'Amritsar';
26
```

Output –

RNO	STUDENT_NAME	DOB	GENDER	STUDENT_CLASS	COLLEGE	CITY	MARKS
9	aayush	18-JUN-01	M	Cse	Chandigarh university	Delhi	20.6
2	Aaryan	21-OCT-01	M	Cse	Chandigarh university	Patiala	90.5
6	Avantika	18-JUN-01	F	Cse	Chandigarh university	Chandigarh	29
1	Aajay	18-JUN-01	M	Cse	Chandigarh university	Patiala	96.3

)ownload CSV

4 rows selected.

10) Delete the records of students where marks

Code –

```
28
29  delete from Students where Marks <30;
30
31  select * from Students;
```

Output –

RNO	STUDENT_NAME	DOB	GENDER	STUDENT_CLASS	COLLEGE	CITY	MARKS
2	Aaryan	21-OCT-01	M	Cse	Chandigarh university	Patiala	90.5
1	Aajay	18-JUN-01	M	Cse	Chandigarh university	Patiala	96.3

Download CSV
2 rows selected.

Q3 - a) Create table Employee.

Code -

SQL Worksheet

```
1  create table Employee (EID number(10),Fname varchar2(20),Lname varchar2(20), Gender varchar2(1), Salary number(20),Hiredate date);
2
3  desc Employee
```

Output –

SQL Worksheet

Table created.

TABLE EMPLOYEE

Column	Null?	Type
EID	-	NUMBER(10,0)
FNAME	-	VARCHAR2(20)
LNAME	-	VARCHAR2(20)
GENDER	-	VARCHAR2(1)
SALARY	-	NUMBER(20,0)
HIREDATE	-	DATE

Download CSV
6 rows selected.

b) Insert the values as mentioned

Code -

```
create table Employee (EID number(10),Fname varchar2(20),Lname varchar2(20), Gender varchar2(1), Salary number(20),Hiredate date);

desc Employee

insert into Employee values (1,'Rajveer','Singh','M',30000,'05-nov-2017');
insert into Employee values (2,'Manveer','Singh','M',50000,'05-nov-2017');
insert into Employee values (3,'Ashutosh','Kumar','M',40000,'12-dec-2017');
insert into Employee values (4,'Ankita','Sharma','F',45000,'15-dec-2017');
insert into Employee values (5,'Vijay','Kumar','M',50000,'12-jan-2017');
insert into Employee values (6,'Dilip','Yadav','M',25000,'26-feb-2017');
insert into Employee values (7,'Jayvijay','Singh','M',30000,'18-feb-2017');
insert into Employee values (8,'Reenu','Kumari','F',40000,'19-sep-2017');
insert into Employee values (9,'Ankit','Verma','M',25000,'04-apr-2017');
insert into Employee values (10,'Harpreet','Singh','M',50000,'10-oct-2017');

select * from Employee
```

Output –

SQL Worksheet

EID	FNAME	LNAME	GENDER	SALARY	HIREDATE
3	Ashutosh	Kumar	M	40000	12-DEC-17
5	Vijay	Kumar	M	50000	12-JAN-17
8	Reenu	Kumari	F	40000	19-SEP-17
1	Rajveer	Singh	M	30000	05-NOV-17
10	Harpreet	Singh	M	50000	10-OCT-17
2	Manveer	Singh	M	50000	05-NOV-17
7	Jayvijay	Singh	M	30000	18-FEB-17
9	Ankit	Verma	M	25000	04-APR-17
4	Ankita	Sharma	F	45000	15-DEC-17
6	Dilip	Yadav	M	25000	26-FEB-17

Download CSV

10 rows selected.

c) Drop column LNAME from the employee table.

Code –

```
18  alter table Employee drop column Lname ;
19
20  desc Employee
```

Output –

TABLE EMPLOYEE

Column	Null?	Type
EID	-	NUMBER(10,0)
FNAME	-	VARCHAR2(20)
GENDER	-	VARCHAR2(1)
SALARY	-	NUMBER(20,0)
HIREDATE	-	DATE

Download CSV

5 rows selected.

d) Add an annual increment to the salary of employee whose joining date is 19th September 2017.

Code -

```
22  update Employee set Salary = 60000 where Hiredate ='19-Sep-2017';
23
24  select * from Employee
```

Output –

SQL Worksheet

EID	FNAME	GENDER	SALARY	HIREDATE
3	Ashutosh	M	40000	12-DEC-17
5	Vijay	M	50000	12-JAN-17
8	Reenu	F	60000	19-SEP-17
1	Rajveer	M	30000	05-NOV-17
10	Harpreet	M	50000	10-OCT-17
2	Manveer	M	50000	05-NOV-17
7	Jayvijay	M	30000	18-FEB-17
9	Ankit	M	25000	04-APR-17
4	Ankita	F	45000	15-DEC-17
6	Dilip	M	25000	26-FEB-17

Download CSV

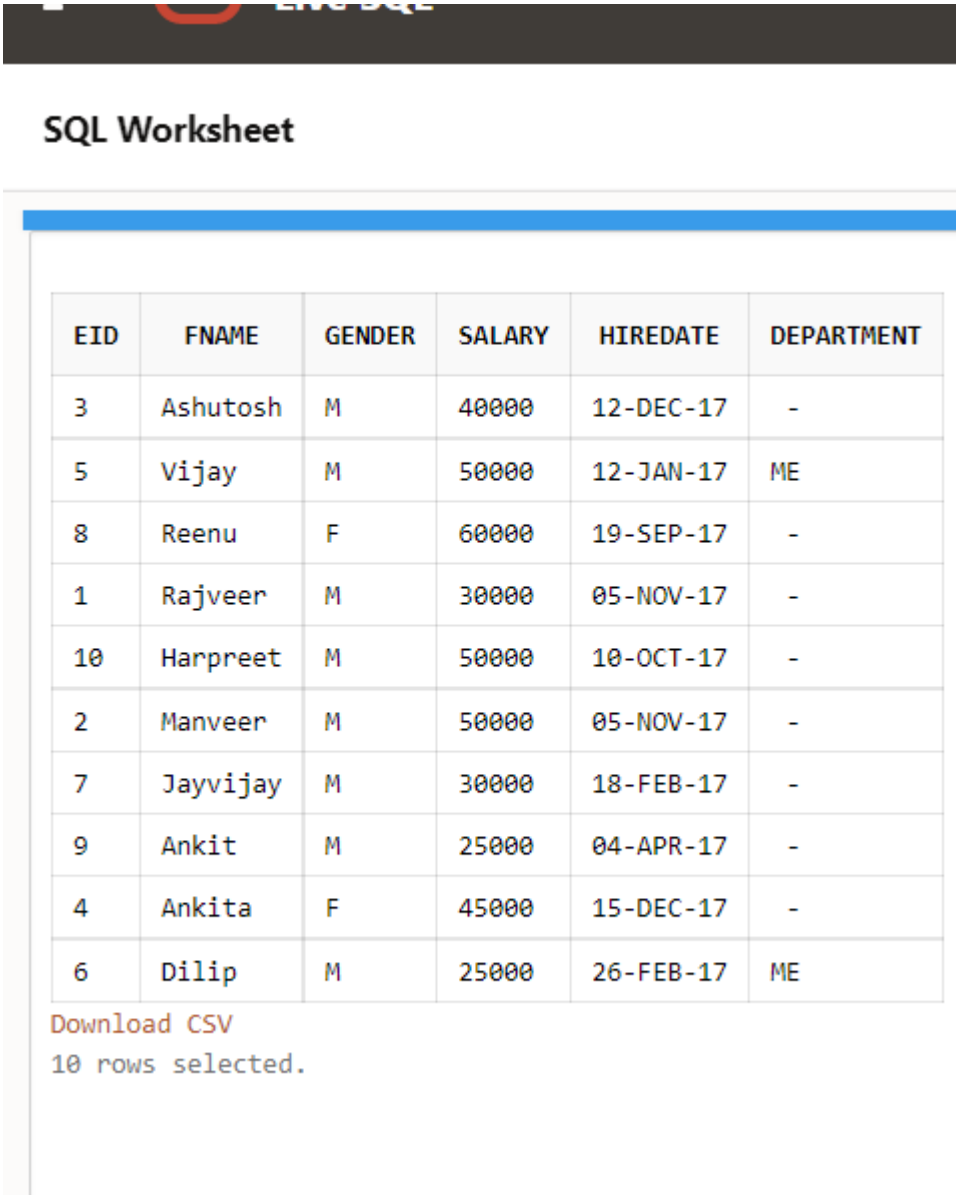
10 rows selected.

e) Modify the department value of DILIP and VIJAY to ME

Code –

```
26
27  alter table Employee add Department varchar2(10);
28  update Employee set Department = 'ME' where Fname = 'Dilip';
29  update Employee set Department = 'ME' where Fname = 'Vijay';
30
31  select * from Employee
```

Output –



EID	FNAME	GENDER	SALARY	HIREDATE	DEPARTMENT
3	Ashutosh	M	40000	12-DEC-17	-
5	Vijay	M	50000	12-JAN-17	ME
8	Reenu	F	60000	19-SEP-17	-
1	Rajveer	M	30000	05-NOV-17	-
10	Harpreet	M	50000	10-OCT-17	-
2	Manveer	M	50000	05-NOV-17	-
7	Jayvijay	M	30000	18-FEB-17	-
9	Ankit	M	25000	04-APR-17	-
4	Ankita	F	45000	15-DEC-17	-
6	Dilip	M	25000	26-FEB-17	ME

Download CSV

10 rows selected.

f) Delete the employees belonging to ME department

Code –

```
30
31  delete from Employee where Department = 'ME';
32
33  select * from Employee;
34
```

Output –

SQL Worksheet

EID	FNAME	GENDER	SALARY	HIREDATE	DEPARTMENT
3	Ashutosh	M	40000	12-DEC-17	-
8	Reenu	F	60000	19-SEP-17	-
1	Rajveer	M	30000	05-NOV-17	-
10	Harpreet	M	50000	10-OCT-17	-
2	Manveer	M	50000	05-NOV-17	-
7	Jayvijay	M	30000	18-FEB-17	-
9	Ankit	M	25000	04-APR-17	-
4	Ankita	F	45000	15-DEC-17	-

Download CSV

8 rows selected.

Q4 – Create table employee(ename,ecode,dep_name,salary) implement following operations using aggregate functions:

1. Display the number of employees working in each department.
   Code –

SQL Worksheet

```
1  create table employee
2  (ename varchar2(30), ecode number(10), dep_name varchar2(30), salary number(10));
3
4  desc employee
5
6  insert into Employee values ('Gursimar', 382, 'Maths',40000)
7  insert into Employee values ('Rishabh', 384, 'Chemistry',35000)
8  insert into Employee values ('Akshay', 386, 'Physics',32000)
9  insert into Employee values ('Rajveer', 381, 'Maths',44000)
10 insert into Employee values ('Manveer', 389, 'Chemistry',37000)
11 insert into Employee values ('Ashutosh', 388, 'Physics',45000)
12 insert into Employee values ('Vijay', 387, 'Maths',30000)
13
14 select count(*) from Employee;
15
```

Output –

COUNT(*)
7

Download CSV

2) Display the average salary of employees working in each department.

a) **Maths**

Code –

```
16  select avg(salary) from employee where dep_name = 'Maths';
```

Output –

AVG(SALARY)
38000

Download CSV

b) Physics

Code –

```
17  select avg(salary) from employee where dep_name = 'Physics';
```

Output –

AVG(SALARY)
38500

Download CSV

c) Chemistry

Code –

```
18  select avg(salary) from employee where dep_name = 'Chemistry';
```

Output –

AVG(SALARY)
36000

Download CSV

3) Find the employee with highest salary in ‘Physics’ Department.

Code –

```
13
14  select max(salary) from employee where dep_name = 'Physics';
```

Output –

MAX(SALARY)
45000

Download CSV