**Practical No. 7**

**Study of Analytic Queries**

**Q. Create Table Employee with attributes emp\_no, name, job, manager, hiring\_date, salary, commission, depaetment number. Insert 10 record and fire some queries.**

SQL> create table emp(eno int,ename varchar2(10),job varchar2(10),manager varchar2(10),h\_date date,sal int,comm int,dno int);

SQL> insert into emp values(101,'Gaurav','Programmer',1,'12-jan-18',25000,1200,11);

SQL> insert into emp values(102,'Sujit','Tester',2,'12-feb-18',20000,1000,12);

SQL> insert into emp values(103,'Adarsh','DBA',2,'10-feb-17',15000,1000,12);

SQL> insert into emp values(104,'Abhishek','Admin',3,'20-feb-17',25000,1200,1);

SQL> insert into emp values(105,'Bhavik','Web\_tester',4,'20-aug-17',15000,1600,3);

SQL> insert into emp values(106,'Mani','Accounting',3,'20-jan-18',30000,1600,21);

**Q. Display average salary from employee table.**

SQL> select avg(sal) from emp;

AVG(SAL)

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21666.6667

**Q. Display average salary as per department number.**

SQL> select dno,avg(sal) from emp group by dno;

DNO AVG(SAL)

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1 25000

11 25000

21 30000

3 15000

12 17500

**Q. Display average salary as per department number and sort in ascending order.**

SQL> select dno,avg(sal) from emp group by dno order by dno;

DNO AVG(SAL)

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1 25000

3 15000

11 25000

12 17500

21 30000

**Q. Analytical Function.**

SQL> select eno,ename,dno,sal,avg(sal) over (partition by dno) as avg\_new\_sal from emp;

ENO ENAME DNO SAL AVG\_NEW\_SAL

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104 Abhishek 1 25000 25000

105 Bhavik 3 15000 15000

101 Gaurav 11 25000 25000

102 Sujit 12 20000 17500

103 Adarsh 12 15000 17500

106 Mani 21 30000 30000

**Q. After removing query partition clause the whole result set is treated as single partition**

SQL> select eno,ename,dno,sal,avg(sal) over ( ) as avg\_new\_sal from emp;

ENO ENAME DNO SAL AVG\_NEW\_SAL

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101 Gaurav 11 25000 21666.6667

102 Sujit 12 20000 21666.6667

103 Adarsh 12 15000 21666.6667

104 Abhishek 1 25000 21666.6667

105 Bhavik 3 15000 21666.6667

106 Mani 21 30000 21666.6667

**Q. First\_value() Function:-**

SQL> select eno,dno,sal,first\_value(sal ignore nulls) over (partition by dno) as avg\_new\_sal from emp;

ENO ENAME DNO SAL AVG\_NEW\_SAL

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104 Abhishek 1 25000 25000

105 Bhavik 3 15000 15000

101 Gaurav 11 25000 25000

102 Sujit 12 20000 20000

103 Adarsh 12 15000 20000

106 Mani 21 30000 30000

**Q. Insert some records with null value for dept\_num and then fire the query.**

SQL> insert into emp values(107,'Ankul','Accounting',3,'20-jan-18',null,null,null);

1 row created.

SQL> select eno,dno,sal,first\_value(sal) over (partition by dno order by sal asc nulls last) as avg\_new\_sal from emp;

ENO DNO SAL AVG\_NEW\_SAL

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104 1 25000 25000

105 3 15000 15000

101 11 25000 25000

103 12 15000 15000

102 12 20000 15000

106 21 30000 30000

107

**Q. Display maximum salary as per department number using analytical queries.**

SQL> select eno,ename,dno,sal,max(sal) over (partition by dno) as max\_new\_sal from emp;

ENO ENAME DNO SAL MAX\_NEW\_SAL

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104 Abhishek 1 25000 25000

105 Bhavik 3 15000 15000

101 Gaurav 11 25000 25000

102 Sujit 12 20000 20000

103 Adarsh 12 15000 20000

106 Mani 21 30000 30000

107 Ankul

**Q. Display minimum salary as per department by using analytical query.**

SQL> select eno,ename,dno,sal,min(sal) over (partition by dno) as min\_new\_sal from emp;

ENO ENAME DNO SAL MIN\_NEW\_SAL

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104 Abhishek 1 25000 25000

105 Bhavik 3 15000 15000

101 Gaurav 11 25000 25000

102 Sujit 12 20000 15000

103 Adarsh 12 15000 15000

106 Mani 21 30000 30000

107 Ankul

**Q. Rank:-**

SQL> select ename,dno,sal,rank() over (partition by dno order by sal) as new\_sal from emp;

ENAME DNO SAL NEW\_SAL

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Abhishek 1 25000 1

Bhavik 3 15000 1

Gaurav 11 25000 1

Adarsh 12 15000 1

Sujit 12 20000 2

Mani 21 30000 1

Ankul 1

**Q. Count():-**

SQL> select eno,ename,dno,sal,count(\*) over (partition by dno) as no\_dept from emp;

ENO ENAME DNO SAL NO\_DEPT

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104 Abhishek 1 25000 1

105 Bhavik 3 15000 1

101 Gaurav 11 25000 1

102 Sujit 12 20000 2

103 Adarsh 12 15000 2

106 Mani 21 30000 1

107 Ankul 1

**Q. Row Count:-**

SQL> select eno,ename,dno,sal,row\_number() over (order by sal) as row\_num from emp;

ENO ENAME DNO SAL ROW\_NUM

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105 Bhavik 3 15000 1

103 Adarsh 12 15000 2

102 Sujit 12 20000 3

101 Gaurav 11 25000 4

104 Abhishek 1 25000 5

106 Mani 21 30000 6

107 Ankul 7

**Q. Sum:-**

SQL> select eno,ename,dno,sal,sum(sal) over (order by dno) as dept\_sal from emp;

ENO ENAME DNO SAL DEPT\_SAL

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104 Abhishek 1 25000 25000

105 Bhavik 3 15000 40000

101 Gaurav 11 25000 65000

102 Sujit 12 20000 100000

103 Adarsh 12 15000 100000

106 Mani 21 30000 130000

107 Ankul 130000

**Q. Lag:-**

SQL> select eno,h\_date,lag(h\_date,1) over (order by h\_date) as prev\_date from emp;

ENO H\_DATE PREV\_DATE

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103 10-FEB-17

104 20-FEB-17 10-FEB-17

105 20-AUG-17 20-FEB-17

101 12-JAN-18 20-AUG-17

107 20-JAN-18 12-JAN-18

106 20-JAN-18 20-JAN-18

102 12-FEB-18 20-JAN-18

**Q. Lead:-**

SQL> select ename,h\_date,lead(h\_date,1) over (order by h\_date) as next\_date from emp;

ENAME H\_DATE NEXT\_DATE

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Adarsh 10-FEB-17 20-FEB-17

Abhishek 20-FEB-17 20-AUG-17

Bhavik 20-AUG-17 12-JAN-18

Gaurav 12-JAN-18 20-JAN-18

Ankul 20-JAN-18 20-JAN-18

Mani 20-JAN-18 12-FEB-18

Sujit 12-FEB-18