**EX.NO: 07 Set Operations , Aggregate functions& group by clause**

**26.04.2024**

**Aim:**

To perform aggregate functions on the relational database and group by records based on the conditions and to perform set operations.

**Tables:**

SQL> create table depositor(cname varchar(10),dep\_id number(7),accno varchar(6));

Table created.

SQL> select \* from depositor;

CNAME DEP\_ID ACCNO

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Romen 1001 AC01

Suji 1002 AC02

Vikram 1003 AC10

Ram 1004 Ac14

SQL> select \* from loan;

CNAME LOANNO ACCNO

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Romen 2001 AC01

Dhanu 2002 AC03

Manju 2003 AC11

Vikram 2004 AC10

**SET OPERATIONS:**

**Union**

SQL> select cname from depositor union select cname from loan;

CNAME

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Romen

Manju

Ram

Dhanu

Suji

Vikram

6 rows selected.

**Intersection**

SQL> select cname from depositor intersect select cname from loan;

CNAME

----------

Romen

Vikram

**Except or minus**

SQL> select cname from depositor minus select cname from loan;

CNAME

----------

Ram

Suji

SQL> select cname from loan minus select cname from depositor;

CNAME

----------

Manju

Dhanu

SQL> create table employee(eid number(5) primary key,ename varchar(10),salary number(7),dept varchar(6));

Table created.

SQL> select \* from employee;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

1 Babu 20000 ECE

2 Joe 15000 CSE

3 Mathi 12000 IT

4 Pandi 11000 ECE

5 Kalees 10000 IT

**AVG:**

SQL> select avg(salary) as avg\_salary from employee;

AVG\_SALARY

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13600

**MAX:**

SQL> select max(salary) as max\_salary from employee;

MAX\_SALARY

----------

20000

**MIN:**

SQL> select min(salary) as min\_salary from employee;

MIN\_SALARY

----------

10000

**SUM:**

SQL> select sum(salary) as total\_salary from employee;

TOTAL\_SALARY

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68000

**COUNT:**

SQL> select count(eid) as no\_of\_employee from employee;

NO\_OF\_EMPLOYEE

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5

**Aggeregate function with groupby,and having.**

SQL> select \* from employee;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

1 Babu 20000 ECE

2 JOE 15000 CSE

3 Mathi 12000 IT

4 Pandi 11000 ECE

5 Kalees 10000 IT

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

DEPT AVG(SALARY)

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IT 11000

CSE 15000

ECE 15500

SQL> select dept,avg(salary) from employee group by dept having avg(salary)>12000;

DEPT AVG(SALARY)

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CSE 15000

ECE 15500

**Distinct:**

SQL> select distinct dept from employee;

DEPT

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IT

CSE

ECE

**Orderby:**

**Descending;**

SQL> select \* from employee order by salary desc;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

1 Babu 20000 ECE

2 JOE 15000 CSE

3 Mathi 12000 IT

4 Pandi 11000 ECE

5 Kalees 10000 IT

**Ascending:**

SQL> select \* from employee order by salary asc;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

5 Kalees 10000 IT

4 Pandi 11000 ECE

3 Mathi 12000 IT

2 JOE 15000 CSE

1 Babu 20000 ECE

SQL> select \* from employee order by salary;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

5 Kalees 10000 IT

4 Pandi 11000 ECE

3 Mathi 12000 IT

2 JOE 15000 CSE

1 Babu 20000 ECE

**Orderby using name:**

SQL> select \* from employee order by ename;

EID ENAME SALARY DEPT

---------- ---------- ---------- ------

3 Mathi 12000 IT

1 Babu 20000 ECE

4 Pandi 11000 ECE

2 JOE 15000 CSE

5 Kalees 10000 IT

SQL> select ename,salary from employee order by ename asc,salary desc;

ENAME SALARY

---------- ----------

Mathi 12000

Babu 20000

Pandi 11000

JOE 15000

Kalees 10000

kalees 18000

kalees 13000

SQL> select ename,salary from employee order by ename desc,salary asc;

ENAME SALARY

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kalees 13000

kalees 18000

Kalees 10000

JOE 15000

Pandi 11000

Babu 20000

Mathi 12000

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| CONTENTS | MARKS ALLOTED | MARKS OBTAINED |
| Aim, Algorithm, SQL, PL/SQL | 30 |  |
| Execution and Result | 20 |  |
| Viva | 10 |  |
| Total | 60 |  |

**RESULT:**

Thus, aggregation on the relational database and group by records based on the conditions and perform set operations were performed.