**Experiment-2**

**Aim**

Queries (along with sub Queries) using ANY, ALL, IN, EXISTS, NOTEXISTS, UNION, INTERSET, Constraints.

**Procedure**

**Connection establishment**

SQL> connect

SQL> sys as sysdba

SQL> connected

**Ceate Tables**

**Student table**

create table student(Roll\_Number number(3) primary key, name varchar(12) not null, marks decimal(4,2) check(marks>=0));

**Attendence table**

create table attendence(Att\_ID number(3) primary key,Roll\_Number number(3),Att\_Per decimal(4,2) check(Att\_Per>=0),foreign key(Roll\_Number) references student25(Roll\_Number));

**Insert Values**

**Insert into student values(501,’Arun’,62); // insert 5 values**

**Insert into attendence values(501,’Arun’,62); //insert 1 row**

**ANY**

The ANY operator is used to compare a value to any value in a subquery result set. It allows you to compare a column's value to a list of values returned by a subquery, and the condition is satisfied if at least one of the values in that list meets the condition.

**Q: Select the roll number and name of the student who secured more marks than any student in the class:**

SQL> SELECT roll\_number, name FROM student WHERE marks > ANY (SELECT marks FROM student);

In this case, the condition marks > ANY (...) means the student's marks should be greater than at least one other student's marks in the table.

**ALL**

The ALL operator is used to compare a value to all values in a result set returned by a subquery. The condition must be true for every value returned by the subquery.

**Q: Select the roll number and name of the student who secured more marks than all students in the class:**

SQL.> SELECT roll\_number, name FROM student WHERE marks >= ALL (SELECT marks FROM student);

**IN**

The IN operator in SQL is used to filter records based on whether a value matches any value in a list or subquery result.

**Q: Select the roll number and name of the student who secured marks in the range of 80-90:**

SQL> SELECT roll\_number, name FROM student WHERE marks IN (75, 86, 96);

**NOT IN**

The NOT IN operator in SQL is used to filter records where a column's value does not match any value in a specified list or subquery result. It is the opposite of the IN operator.

**SQL> select roll\_number, name from student where marks not in(75,86);**

**EXISTS**

The EXISTS operator in SQL is used to check if a subquery returns any results. It returns TRUE if the subquery returns one or more rows, and FALSE if it returns no rows.

**Q: Select the roll number and name of the student who has a record in the attendance table:**

SQL > SELECT roll\_number, name FROM student WHERE EXISTS (SELECT \* FROM attendance WHERE attendance.roll\_number = student.roll\_number);

If the subquery **does** return at least one row, then the row in the main query is included in the result. If the subquery **does not** return any rows, then the main query will exclude that row from the result.

**NOT EXISTS**

The NOT EXISTS operator in SQL is used to check if a subquery does not return any rows. It is the opposite of the EXISTS operator. The NOT EXISTS operator returns true if the subquery produces no rows, and false if it does return any rows.

**Q:Select the roll number and name of the student who does not have a record in the attendance table:**

SQL > SELECT roll\_number, name FROM student WHERE NOT EXISTS (SELECT \* FROM attendance WHERE attendance.roll\_number = student.roll\_number);

**UNION**

The UNION operator in SQL is used to combine the results of two or more SELECT queries into a single result set.

Q: **Select the roll number and name of the student who secured more than 80 marks or has a record in the attendance table:**

SQL> SELECT ROLL\_NUMBER, NAME FROM STUDENT WHERE MARKS > 80 UNION SELECT ROLL\_NUMBER, NAME FROM STUDENT WHERE ROLL\_NUMBER IN (SELECT ROLL\_NUMBER FROM ATENDENCE);

**INTERSET**

The INTERSECT operator in SQL is used to return the common rows from two or more SELECT queries.

Q: **Select the roll number and name of the student who secured more than 80 marks and has a record in the attendance table**:

SQL > SELECT ROLL\_NUMBER, NAME FROM STUDENT WHERE MARKS > 80 INTERSECT SELECT ROLL\_NUMBER, NAME FROM STUDENT WHERE ROLL\_NUMBER IN (SELECT ROLL\_NUMBER FROM ATENDENCE);

**Constraint**

In SQL, a constraint is a rule or restriction placed on a column or a table to enforce data integrity, accuracy, and consistency within a database.

**Q:Select the roll number and name of the student who secured fourth rank in the class.**

**SQL> select roll\_number,name from student where student.roll\_number=(select roll\_number from atendence where atendence.rank=4);**