

TE IT

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Design at SQL queries for suitable database application using SQL DML statements:
perform a test for all types of Join. Perform following Join Operation on student table
and location table.

1) CROSS JOIN

2) NATURAL JOIN

3) LEFT OUTER JOIN

4) RIGHT OUTER JOIN

5) INNER JOIN

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MySQL 8.0 Command Line Client - Unicode
mysql> create database studentlocation;
Query OK, 1 row affected (0.74 sec)

mysql> use studentlocation
Database changed
mysql> create table student(rollno int(10), name varchar(10));
Query OK, 0 rows affected, 1 warning (1.09 sec)

mysql> insert into student values(1,'Akshay'), (2,'Abhishek'), (3,'Bipin'), (4,'Vijay'), (5,'Nikhil');
Query OK, 5 rows affected (0.30 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> create table location(rollno int(10), loc varchar(10));
Query OK, 0 rows affected, 1 warning (0.36 sec)

mysql> insert into location values(1,'Mumbai'), (2,'Pune'), (3,'Nagpur'), (4,'Nashik'), (7,'Satara'), (8,'Kolhapur');
Query OK, 6 rows affected (0.14 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from student cross join location;
```

rollno	name	rollno	loc
1	Akshay	1	Mumbai
2	Abhishek	1	Mumbai
3	Bipin	1	Mumbai
4	Vijay	1	Mumbai
5	Nikhil	1	Mumbai
1	Akshay	2	Pune
2	Abhishek	2	Pune
3	Bipin	2	Pune
4	Vijay	2	Pune
5	Nikhil	2	Pune
1	Akshay	3	Nagpur
2	Abhishek	3	Nagpur
3	Bipin	3	Nagpur
4	Vijay	3	Nagpur
5	Nikhil	3	Nagpur
1	Akshay	4	Nashik
2	Abhishek	4	Nashik
3	Bipin	4	Nashik
4	Vijay	4	Nashik
5	Nikhil	4	Nashik
1	Akshay	7	Satara
2	Abhishek	7	Satara
3	Bipin	7	Satara
4	Vijay	7	Satara
5	Nikhil	7	Satara
1	Akshay	8	Kolhapur
2	Abhishek	8	Kolhapur

```
MySQL 8.0 Command Line Client - Unicode
mysql> select * from student cross join location;
+-----+-----+-----+-----+
| rollno | name  | rollno | loc  |
+-----+-----+-----+-----+
| 1      | Akshay | 1      | Mumbai |
| 2      | Abhishek | 1      | Mumbai |
| 3      | Bipin | 1      | Mumbai |
| 4      | Vijay | 1      | Mumbai |
| 5      | Nikhil | 1      | Mumbai |
| 1      | Akshay | 2      | Pune |
| 2      | Abhishek | 2      | Pune |
| 3      | Bipin | 2      | Pune |
| 4      | Vijay | 2      | Pune |
| 5      | Nikhil | 2      | Pune |
| 1      | Akshay | 3      | Nagpur |
| 2      | Abhishek | 3      | Nagpur |
| 3      | Bipin | 3      | Nagpur |
| 4      | Vijay | 3      | Nagpur |
| 5      | Nikhil | 3      | Nagpur |
| 1      | Akshay | 4      | Nashik |
| 2      | Abhishek | 4      | Nashik |
| 3      | Bipin | 4      | Nashik |
| 4      | Vijay | 4      | Nashik |
| 5      | Nikhil | 4      | Nashik |
| 1      | Akshay | 7      | Satara |
| 2      | Abhishek | 7      | Satara |
| 3      | Bipin | 7      | Satara |
| 4      | Vijay | 7      | Satara |
| 5      | Nikhil | 7      | Satara |
| 1      | Akshay | 8      | Kolhapur |
| 2      | Abhishek | 8      | Kolhapur |
| 3      | Bipin | 8      | Kolhapur |
| 4      | Vijay | 8      | Kolhapur |
| 5      | Nikhil | 8      | Kolhapur |
+-----+-----+-----+-----+
50 rows in set (0.11 sec)

mysql> select * from student natural join location;
+-----+-----+-----+
| rollno | name  | loc  |
+-----+-----+-----+
| 1      | Akshay | Mumbai |
| 2      | Abhishek | Pune |
| 3      | Bipin | Nagpur |
| 4      | Vijay | Nashik |
+-----+-----+-----+
4 rows in set (0.05 sec)
```

```
MySQL 8.0 Command Line Client - Unicode
mysql> select * from student left outer join location on student.rollno=location.rollno;
+-----+-----+-----+-----+
| rollno | name  | rollno | loc  |
+-----+-----+-----+-----+
| 1      | Akshay | 1      | Mumbai |
| 2      | Abhishek | 2      | Pune |
| 3      | Bipin | 3      | Nagpur |
| 4      | Vijay | 4      | Nashik |
| 5      | Nikhil | NULL   | NULL |
+-----+-----+-----+-----+
5 rows in set (0.10 sec)

mysql> select * from student right outer join location on student.rollno=location.rollno;
+-----+-----+-----+-----+
| rollno | name  | rollno | loc  |
+-----+-----+-----+-----+
| 1      | Akshay | 1      | Mumbai |
| 2      | Abhishek | 2      | Pune |
| 3      | Bipin | 3      | Nagpur |
| 4      | Vijay | 4      | Nashik |
| NULL   | NULL  | 7      | Satara |
| NULL   | NULL  | 8      | Kolhapur |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> select student.rollno, student.name, location.loc from student inner join location on student.rollno=location.rollno;
+-----+-----+-----+
| rollno | name  | loc  |
+-----+-----+-----+
| 1      | Akshay | Mumbai |
| 2      | Abhishek | Pune |
| 3      | Bipin | Nagpur |
| 4      | Vijay | Nashik |
+-----+-----+-----+
4 rows in set (0.05 sec)

mysql>
```

```
MySQL 8.0 Command Line Client - Unicode
mysql> select * from student left outer join location on student.rollno=location.rollno;
+-----+-----+-----+-----+
| rollno | name  | rollno | loc  |
+-----+-----+-----+-----+
| 1      | Akshay | 1      | Mumbai |
| 2      | Abhishek | 2      | Pune |
| 3      | Bipin | 3      | Nagpur |
| 4      | Vijay | 4      | Nashik |
| 5      | Nikhil | NULL   | NULL |
+-----+-----+-----+-----+
5 rows in set (0.10 sec)

mysql> select * from student right outer join location on student.rollno=location.rollno;
+-----+-----+-----+-----+
| rollno | name  | rollno | loc  |
+-----+-----+-----+-----+
| 1      | Akshay | 1      | Mumbai |
| 2      | Abhishek | 2      | Pune |
| 3      | Bipin | 3      | Nagpur |
| 4      | Vijay | 4      | Nashik |
| NULL   | NULL  | 7      | Satara |
| NULL   | NULL  | 8      | Kolhapur |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> select student.rollno, student.name, location.loc from student inner join location on student.rollno=location.rollno;
+-----+-----+-----+
| rollno | name  | loc  |
+-----+-----+-----+
| 1      | Akshay | Mumbai |
| 2      | Abhishek | Pune |
| 3      | Bipin | Nagpur |
| 4      | Vijay | Nashik |
+-----+-----+-----+
4 rows in set (0.05 sec)

mysql>
```