**Student**

| ROLL_NO | NAME | ADDRESS | PHONE | Age |
|---------|------|---------|-------|-----|
| 1 | HARSH | DELHI | XXXXXXXXXX | 18 |
| 2 | PRATIK | BIHAR | XXXXXXXXXX | 19 |
| 3 | RIYANKA | SILIGURI | XXXXXXXXXX | 20 |
| 4 | DEEP | RAMNAGAR | XXXXXXXXXX | 18 |
| 5 | SAPTARHI | KOLKATA | XXXXXXXXXX | 19 |
| 6 | DHANRAJ | BARABAJAR | XXXXXXXXXX | 20 |
| 7 | ROHIT | BALURGHAT | XXXXXXXXXX | 18 |
| 8 | NIRAJ | ALIPUR | XXXXXXXXXX | 19 |

**StudentCourse**

| COURSE_ID | ROLL_NO |
|-----------|---------|
| 1 | 1 |
| 2 | 2 |
| 2 | 3 |
| 3 | 4 |
| 1 | 5 |
| 4 | 9 |
| 5 | 10 |
| 4 | 11 |

*inner join*

only intersection one from both the tables.

```
SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
INNER JOIN table2
ON table1.matching_column = table2.matching_column;
```

Output:

| COURSE_ID | NAME | Age |
|-----------|------|-----|
| 1 | HARSH | 18 |
| 2 | PRATIK | 19 |
| 2 | RIYANKA | 20 |
| 3 | DEEP | 18 |
| 1 | SAPTARHI | 19 |

```
SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
FULL JOIN table2
ON table1.matching_column = table2.matching_column;
```

| NAME | COURSE_ID |
|------|-----------|
| HARSH | 1 |
| PRATIK | 2 |
| RIYANKA | 2 |
| DEEP | 3 |
| SAPTARHI | 1 |
| DHANRAJ | NULL |
| ROHIT | NULL |
| NIRAJ | NULL |
| NULL | 9 |
| NULL | 10 |
| NULL | 11 |

*full join*

all left elements and right rows will come for sure.
either we find the matched one or not.

## 1. Natural Join :

Natural Join joins two tables based on same attribute name and datatypes. The resulting table will contain all the attributes of both the table but keep only one copy of each common column.

Student Table

| Roll_No | Name |
|---------|------|
| 1 | A |
| 2 | B |
| 3 | C |

| Roll_No | Marks |
|---------|-------|
| 2 | 70 |
| 3 | 50 |
| 4 | 85 |

*no need to write where or/ on condition.

```
SELECT *
FROM Student NATURAL JOIN Marks;
```

(one time)

Output:

| Roll_No | Name | Marks |
|---------|------|-------|
| 2 | B | 70 |
| 3 | C | 50 |

## 2. Inner Join :

Inner Join joins two table on the basis of the column which is explicitly specified in the ON clause. The resulting table will contain all the attributes from both the tables including common column also.

```
SELECT *
FROM student S INNER JOIN Marks M ON S.Roll_No = M.Roll_No;
```

**Output :**

Student Table

| Roll_No | Name |
|---------|------|
| 1 | A |
| 2 | B |
| 3 | C |

| Roll_No | Marks |
|---------|-------|
| 2 | 70 |
| 3 | 50 |
| 4 | 85 |

| Roll_No | Name | Roll_No | Marks |
|---------|------|---------|-------|
| 2 | B | 2 | 70 |
| 3 | C | 3 | 50 |