

## Examples of Joins in Relational Algebra

Suppose we have the following 2 relations below:

A

Num	Square
1	1
2	4
3	9

B

Num	Cube
2	8
3	27
4	64

### Natural Join:

$A \bowtie B$  will get us the relation:

Num	Square	Cube
2	4	8
3	9	27

### Left Join:

$A \bowtie_L B$  will get us the relation:

Num	Square	Cube
1	1	Null
2	4	8
3	9	27

### Right Join:

$A \bowtie_R B$  will get us the relation:

Num	Square	Cube
2	4	8
3	9	27
4	Null	64

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### **Full Outer Join:**

A  $\bowtie_o$  B will get us the relation:

Num	Square	Cube
1	1	Null
2	4	8
3	9	27
4	Null	64

### **Cartesian Join:**

A X B will get us the relation:

A.num	A.square	B.num	B.cube
1	1	2	8
1	1	3	27
1	1	4	64
2	4	2	8
2	4	3	27
2	4	4	64
3	9	2	8
3	9	3	27
3	9	4	64