

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

Examples of Joins in Relational Algebra

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:

$A \times B$ 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