

Equijoin:- when theta join uses only equality comparison operator it is said to be equijoin.

Natural join:- Natural join does not use any comparison operator. we can perform a natural join only if there is at least one common attribute that exists b/w two relations.

<u>Courses</u>			<u>MO</u>	<u>Head</u>
<u>CID</u>	<u>course</u>	<u>Dept</u>	<u>Dept</u>	
CS01	DB	CS	CS	Alex
ME01	mechanics	ME	ME	maya
EE01	Electronics	EE	EE	moria

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	CS01	DB		Alex
CS		mechanics		maya
ME	ME01			
EE	EE01	Electronics		moria

Join, Equijoin & Natural joins are called inner joins

Outer joins:- An inner join includes only those tuples with matching attributes & the rest are discarded in the resulting relation.

Left outer join

All the tuples from the left relation R are included in the resulting relation. If there are tuples in R without any matching tuple in the S.

<u>R</u>		<u>S</u>		<u>R \bowtie S</u>		<u>C</u>	<u>D</u>
<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>		
100	DB	100	Alex	100	DB	100	Alex
101	mechanics	102	maya	101	mechanics	-	-
102	Electronics	104	mira	102	Electronics	102	maya

Right outer join : All tuples from the right relation
S are included in the resulting relation.

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
100	DB	100	Alex
102	Electronics	102	maya
-	-	104	mira

Full outer join R \bowtie S

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
100	DB	100	Alex
101	mechanics	-	-
102	Electronics	102	maya
-	-	104	mira

Cartesian product :-

<u>R</u>		<u>S</u>	
<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>
x1	x2	y1	y2
x3	x4	y3	y4

R x S :

a	b	c	d
x1	x2	y1	y2
x1	x2	x3	y4
x3	x4	y1	x2
x3	x4	y3	y4