

joins – cross join

The CROSS JOIN produced a result set which is the product of rows of two associated tables when no WHERE clause is used with CROSS JOIN. In this join, the result set appeared by multiplying each row of the first table with all rows in the second table if no condition introduced with CROSS JOIN.

SELECT A_1, A_2, A_3, \dots **FROM** r_1 **CROSS JOIN** r_2, \dots

envelope

Table

	id	user_id
▶	1	1
	2	2
	3	3

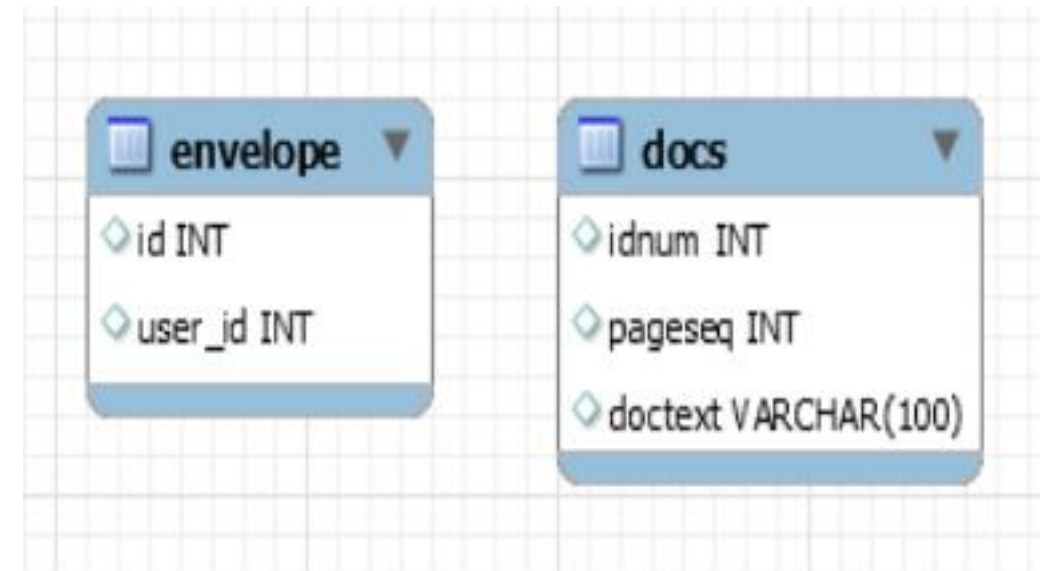
docs

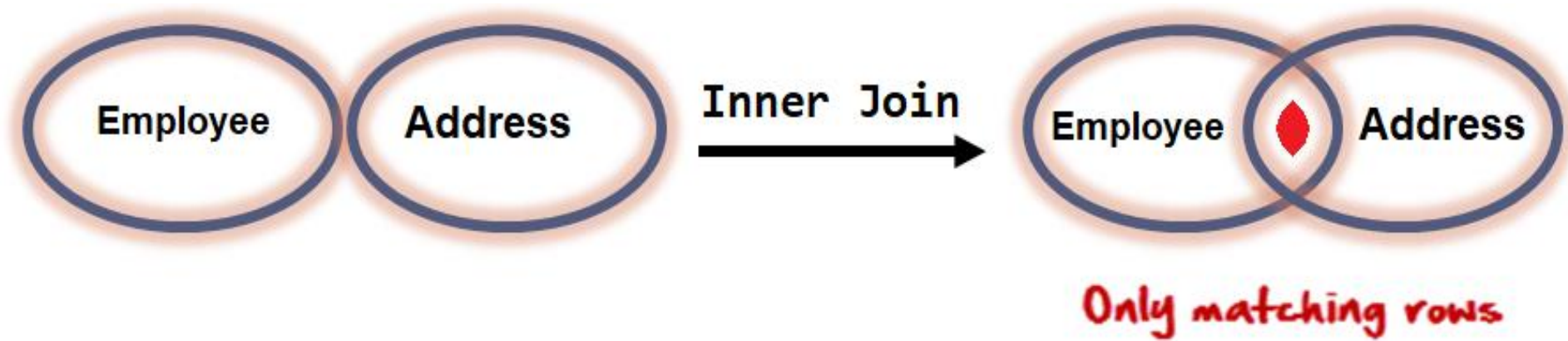
Table

	idnum	pageseq	doctext
▶	1	5	NULL
	2	6	NULL
	NULL	0	NULL

- **SELECT** * **FROM** envelope **CROSS JOIN** docs;

	id	user_id	idnum	pageseq	doctext
▶	1	1	1	5	NULL
	2	2	1	5	NULL
	3	3	1	5	NULL
	1	1	2	6	NULL
	2	2	2	6	NULL
	3	3	2	6	NULL
	1	1	NULL	0	NULL
	2	2	NULL	0	NULL
	3	3	NULL	0	NULL





equi join

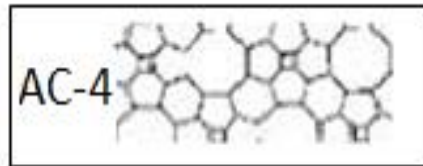
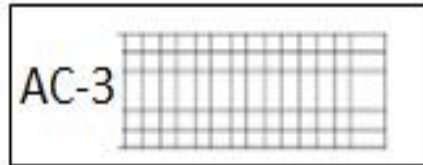
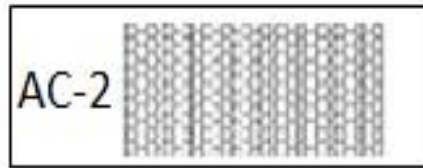
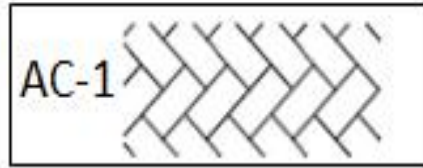
An **equi join** / **Inner Join** is a join with a join condition containing an equality operator.

An equijoin returns only those rows that have equivalent values for the specified columns. Rows that match remain in the result, those that don't are rejected. The match condition is commonly called the **join condition**. **equi join** / **Inner Join** returns rows when there is at least one match in both tables.

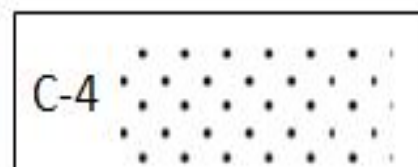
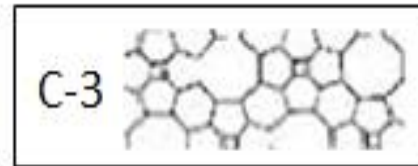
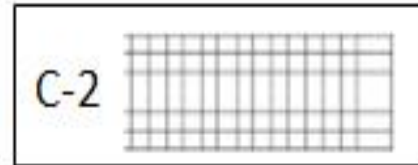
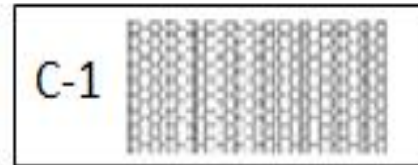
The result of $R(A_1, A_2, \dots, A_n) \bowtie_{\langle \text{join condition} \rangle} S(B_1, B_2, \dots, B_m)$ is a relation Q with degree $n + m$ attributes $Q(A_1, A_2, \dots, A_n, B_1, B_2, \dots, B_m)$, in that order. Q has one tuple for each combination of tuples—one from R and one from S —whenever the combination satisfies the join condition.

equi join example

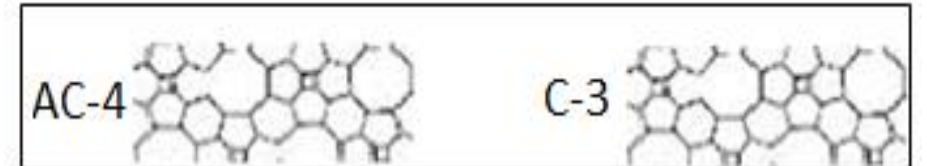
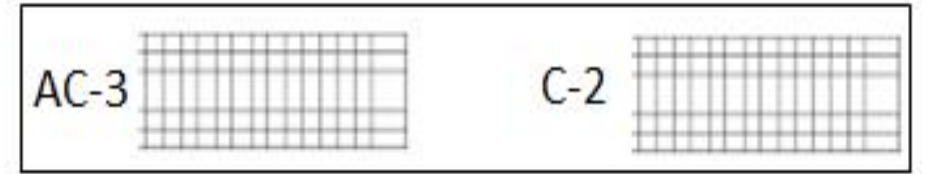
The following table illustrates the inner join of two tables $r_1(AC-1, AC-2, AC-3, AC-4, AC-5)$ and $r_2(C-1, C-2, C-3, C-4)$. The result includes rows: (2,A), (3,B), and (4,C) as they have the same patterns.



INNER JOIN



=



inner join

The inner join is one of the most commonly used joins in SQL. The inner join clause allows you to query data from two or more related tables.

INNER JOIN returns rows when there is at least one match in both tables.

joins – inner join

The INNER JOIN selects all rows from both participating tables as long as there is a match between the columns. An SQL INNER JOIN is same as JOIN clause, combining rows from two or more tables.

SELECT A_1, A_2, A_3, \dots **FROM** r_1 **[INNER] JOIN** r_2 **ON** $r_1.A_1 = r_2.A_1$

- **SELECT** * **FROM** employee emp **INNER JOIN** qualification quali **ON** emp.id = quali.employeeid;

