

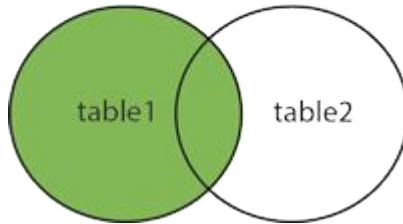
Relational Joins

What Venn Diagrams do not tell you

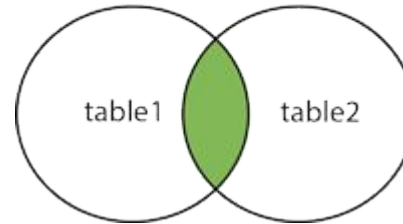
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Venn Diagrams

LEFT JOIN



INNER JOIN



The Issue with Venn Diagrams

Table A

Date
2022/2/5
2022/2/5

Table B

Date
2022/2/5
2022/2/5
2022/2/5

If A **LEFT JOIN** B on Date, how many rows?

If A **INNER JOIN** B on Date, how many rows?

The Issue with Venn Diagrams

Table A

Date
2022/2/5
2022/2/5
2022/8/9

Table B

Date
2022/2/5
2022/2/5
2022/2/5
2022/7/6

If A **LEFT JOIN** B on Date, how many rows?

If A **INNER JOIN** B on Date, how many rows?

Left Join

Table 1 ●

1		
2		

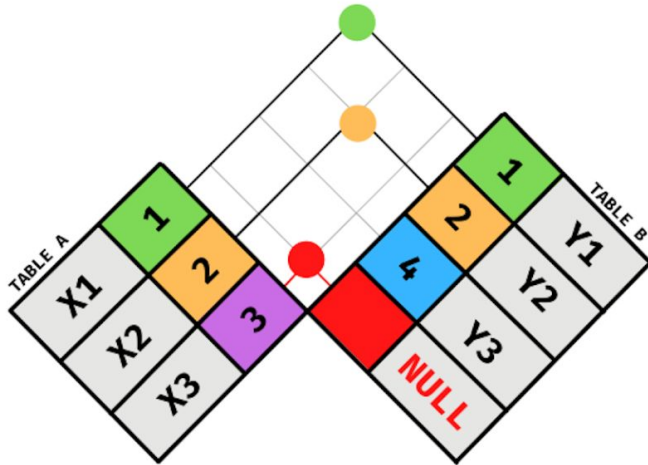
Table 2 ●

1		
3		
4		

Left Join ●●

1				
2				

Left Joins



LEFT JOIN



```
SELECT  
  <SELECT LIST>  
FROM    TABLE_A A  
LEFT JOIN TABLE_B B  
  ON A.KEY = B.KEY
```

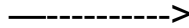
KEY	VAL_X	VAL_Y
1	X1	Y1
2	X2	Y2
3	X3	NULL

Left Join

Date	Num
2/5	1
2/5	2
8/9	3

Left Join

Date	Letter
2/5	A
2/5	Y
2/5	C
7/6	H



Date	Num	Letter
2/5	1	A
2/5	1	Y
2/5	1	C
2/5	2	A
2/5	2	Y
2/5	2	C
8/9	3	NULL

Inner Join

Table 1 ●

1		
2		

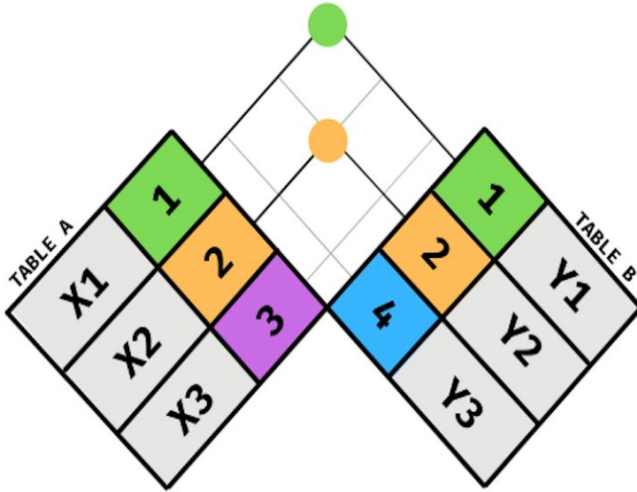
Table 2 ●

1		
3		
4		

Inner Join ○○

1				

Inner Joins



INNER JOIN

```
SELECT  
  <SELECT LIST>  
FROM    TABLE_A A  
INNER JOIN TABLE_B B  
  ON A.KEY = B.KEY
```

KEY	VAL_X	VAL_Y
1	X1	Y1
2	X2	Y2

Inner Join

Date	Num
2/5	1
2/5	2
8/9	3

Inner Join

Date	Letter
2/5	A
2/5	Y
2/5	C
7/6	H



Date	Num	Letter
2/5	1	A
2/5	1	Y
2/5	1	C
2/5	2	A
2/5	2	Y
2/5	2	C

Do you get it now?

Table A

Date	Number
2022/1/1	1
2022/1/1	2
2019/6/6	3
Null	4

Table B

Date	Letter
2022/1/1	A
2022/1/1	B
2022/1/1	C
Null	D

If A **LEFT JOIN** B on Date, how many rows?

If A **INNER JOIN** B on Date, how many rows?

Citations

<https://dataschool.com/how-to-teach-people-sql/sql-join-types-explained-visually/>

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