

Veritabanı Yönetim Sistemleri (335)

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L15-

SQL-4 (structured query language)

GÜZ -2022

```
CREATE TABLE dersler (  
    ögrencino integer  
    references  
    ögrenci(ögrencino),  
    derskodu varchar ,  
    derskredi integer,  
    dersnot integer  
);
```

```
SELECT ögrencino,  
       isim FROM  
       ögrenci ORDER BY  
       isim  
OFFSET 2 ROWS  
FETCH FIRST 1  
ROW ONLY;
```

```
SELECT COUNT(CustomerID), Country  
FROM Customers  
GROUP BY Country  
HAVING COUNT(CustomerID) > 5  
ORDER BY COUNT(CustomerID)  
DESC;
```

```
SELECT avg (ortalama)  
AS "sınıfortalaması"  
from öğrenci;
```

```
SELECT * FROM dersler where  
dersler.derskodu LIKE 'BL%';
```

```
Select * from  
öğrenci where  
yas IN (18,19);
```

```
SELECT * FROM  
dersler limit 4;
```

```
select * from öğrenci  
where yas between 16 and 18;
```

- and,or, not
- auto increment
- Like – ilike
- Limit, between, in , group by, having

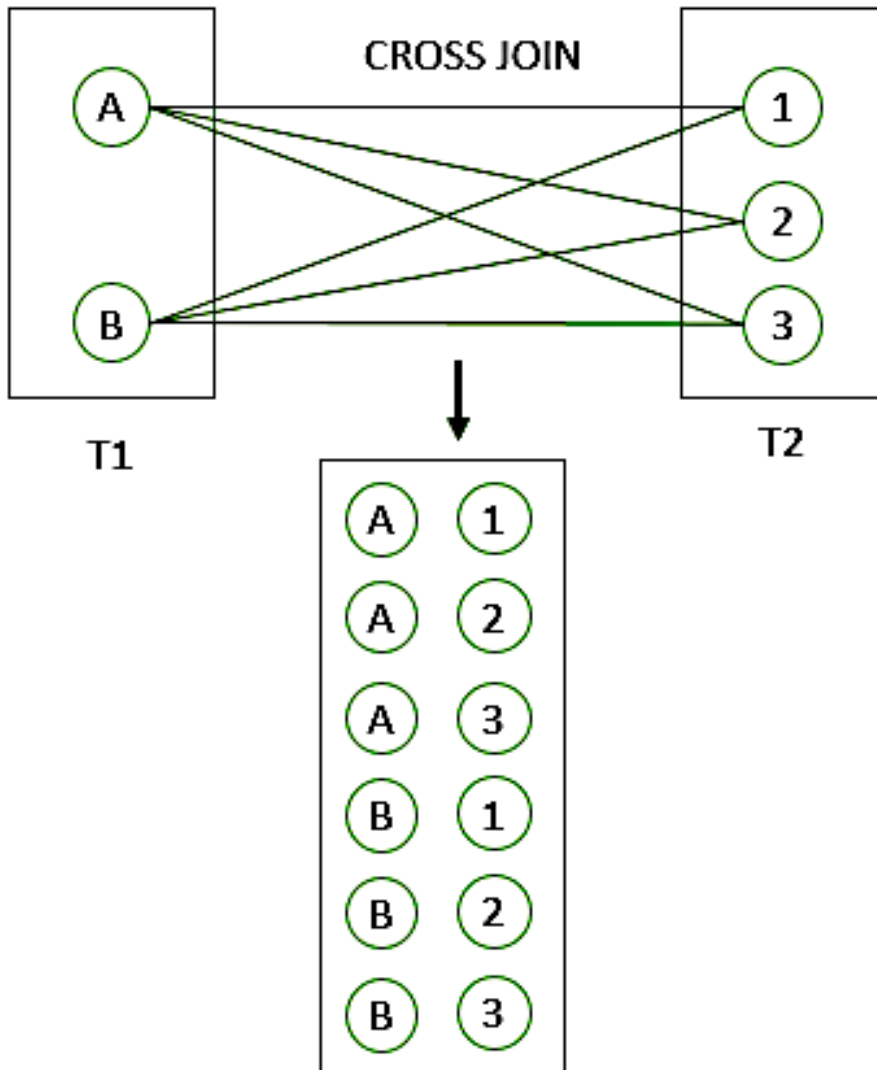
Tablo Birleştirme (JOIN)

JOIN operatörü iki veya daha fazla tablonun sütunlarının birleştirilmesini gerçekleştirir.

- Cross Join
- Inner Join
- Left Join (left outer)
- Right Join
- Natural Join (Inner , Left , Right)

<https://www.postgresqltutorial.com/postgresql-joins/>

JOIN: Cross Join



İki veya daha fazla tablonun herhangi bir şart belirtilmeden kartezyen carpımını gerçekleştirir

```
SELECT * FROM  
T1 CROSS JOIN T2;
```

Cross Join

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zyp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from *dersler* **cross join** *öğrenci* ;



Cross Join

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

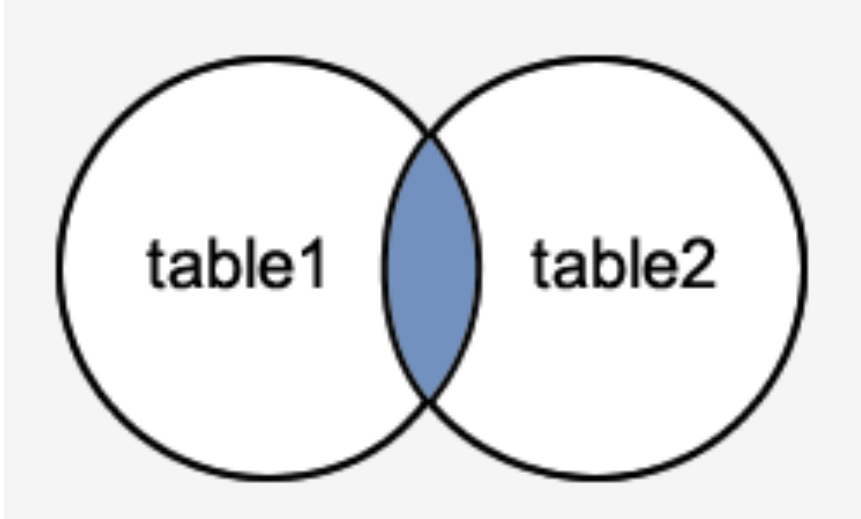
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from *dersler* **cross join** *öğrenci* ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	17532	Eymen	Eymen234	19	3.2
2	17532	BL44	4	85	16458	Hayri	Hayri95	19	3.8
3	17532	BL44	4	85	17327	Mustafa	m.4417	18	5
4	17532	BL44	4	85	17111	Mehmet	Mhmt4456	20	4
70	17123	YM55	1	83	17236	Cemil	Cm3418	18	3.9
71	17123	YM55	1	83	17355	Leyla	lyl34	25	4
72	17123	YM55	1	83	17346	Zeynep	zynp44	22	4.3

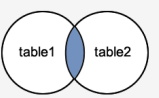
JOIN: Inner Join



İki tablonun
belirlenen şartı sağlayan
bütün satırları birleştirilir ve listelenir.

```
SELECT * FROM  
T1 INNER JOIN T2  
ON ŞART;
```


Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

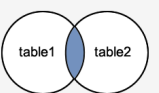
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select * from dersler d inner join öğrenci o
on o.öğrencino=d.öğrencino ;
```



Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

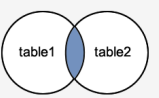
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
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```
Select * from dersler d inner join öğrenci o
on o.öğrencino=d.öğrencino ;
```

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
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2	17327	MK25	3	73	17327	Mustafa	m.4417	18	5
3	17532	BL13	3	94	17532	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	17236	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	17123	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	16458	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	17123	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	16458	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	17123	Arif	Arf2332	24	3.2

Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
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17236	Cemil	Cm3418	18	3.9
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17346	Zeynep	zynp44	22	4.3

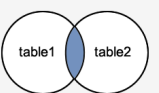
dersler

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17532	BL44	4	85
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17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from öğrenci o inner join dersler d on o.öğrencino=d.öğrencino ;



Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
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17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

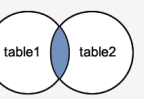
dersler

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17532	BL44	4	85
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Select * from öğrenci o inner join dersler d on o.öğrencino=d.öğrencino ;

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1	17532	Eymen	Eymen234	19	3.2	17532	BL44	4	85
2	17327	Mustafa	m.4417	18	5	17327	MK25	3	73
3	17532	Eymen	Eymen234	19	3.2	17532	BL13	3	94
4	17236	Cemil	Cm3418	18	3.9	17236	T121	2	45
5	17123	Arif	Arf2332	24	3.2	17123	KM32	1	52
6	16458	Hayri	Hayri95	19	3.8	16458	BL13	3	53
7	17123	Arif	Arf2332	24	3.2	17123	BL44	4	75
8	16458	Hayri	Hayri95	19	3.8	16458	TR4	2	65
9	17123	Arif	Arf2332	24	3.2	17123	YM55	1	83

Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
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16458	Hayri	Hayri95	19	3.8
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17123	Arif	Arf2332	24	3.2
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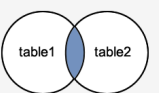
dersler

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17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select d.öğrencino, d.derskodu , o.isim, o.yaş from
dersler d inner join öğrenci o
on o.öğrencino=d.öğrencino
```



Inner Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

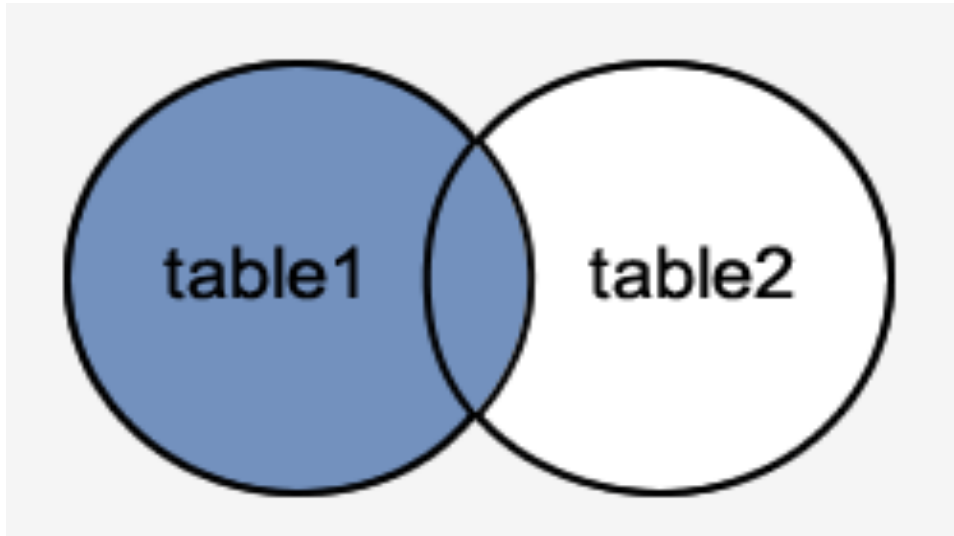
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select d.öğrencino, d.derskodu , o.isim, o.yaş from
dersler d inner join öğrenci o
on o.öğrencino=d.öğrencino
```

	öğrencino integer	derskodu character varying (20)	isim character varying (20)	yaş integer
1	17532	BL44	Eymen	19
2	17327	MK25	Mustafa	18
3	17532	BL13	Eymen	19
4	17236	T121	Cemil	18
5	17123	KM32	Arif	24
6	16458	BL13	Hayri	19
7	17123	BL44	Arif	24
8	16458	TR4	Hayri	19
9	17123	YM55	Arif	24

JOIN: Left Join



SELECT kolon(lar) FROM

TABLO1* LEFT OUTER JOIN *TABLO2

ON şartlar;

Tablo 1'in her satırından birer tane bulunur

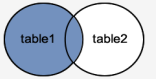
Tablo 2 'nin belirtilen şarta uymayan değerlerin yerine NULL eklenir.

LEFT OUTER JOIN = LEFT JOIN



Optional

Left Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zypn44	22	4.3

8

dersler

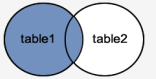
öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

9

```
Select * from dersler d left join öğrenci o on o.öğrencino=d.öğrencino ;
```



Left Join



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

8

dersler

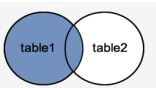
öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
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17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

9

Select * from dersler d left join öğrenci o on o.öğrencino=d.öğrencino ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	17532	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	17327	Mustafa	m.4417	18	5
3	17532	BL13	3	94	17532	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	17236	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	17123	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	16458	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	17123	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	16458	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	17123	Arif	Arf2332	24	3.2

Left Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

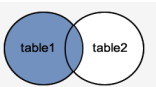
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
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17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from öğrenci o left join dersler d on o.öğrencino=d.öğrencino ;



Left Join



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
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17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

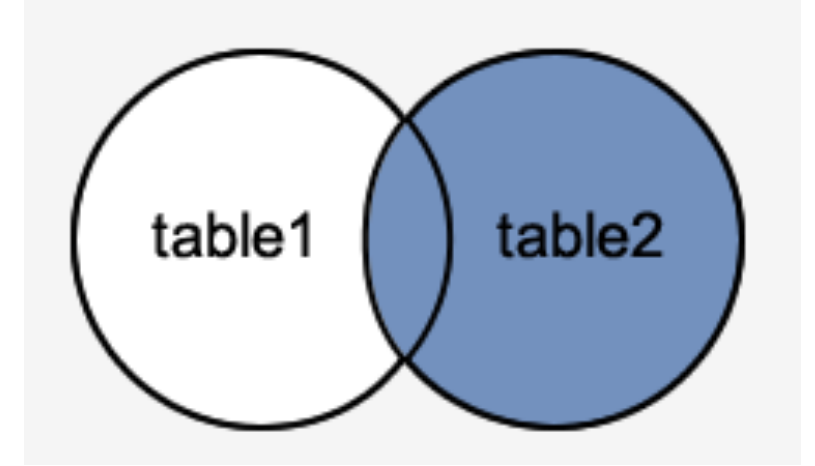
öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
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17532	BL13	3	94
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Select * from öğrenci o left join dersler d on o.öğrencino=d.öğrencino ;

	öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
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2	17327	Mustafa	m.4417	18	5	17327	MK25	3	73
3	17532	Eymen	Eymen234	19	3.2	17532	BL13	3	94
4	17236	Cemil	Cm3418	18	3.9	17236	T121	2	45
5	17123	Arif	Arf2332	24	3.2	17123	KM32	1	52
6	16458	Hayri	Hayri95	19	3.8	16458	BL13	3	53
7	17123	Arif	Arf2332	24	3.2	17123	BL44	4	75
8	16458	Hayri	Hayri95	19	3.8	16458	TR4	2	65
9	17123	Arif	Arf2332	24	3.2	17123	YM55	1	83
10	17355	Leyla	lyl34	25	4	[null]	[null]	[null]	[null]
11	17111	Mehmet	Mhmt4456	20	4	[null]	[null]	[null]	[null]
12	17346	Zeynep	zynp44	22	4.3	[null]	[null]	[null]	[null]

JOIN: Right Outer Join

Tablo 2 'nin her satırından birer tane bulunur
Tablo 1 'de belirtilen şarta uymayan değerlerin
yerine NULL eklenir.



```
SELECT kolon(lar) FROM  
TABLO1 RIGHT OUTER JOIN TABLO2  
ON ŞARTLAR;
```

Right Join

table1

table2

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

8

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

9

Select * **from** öğrenci o **right join** dersler d **on** o.öğrencino=d.öğrencino ;



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from öğrenci o right join dersler d on o.öğrencino=d.öğrencino ;

	öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
1	17532	Eymen	Eymen234	19	3.2	17532	BL44	4	85
2	17327	Mustafa	m.4417	18	5	17327	MK25	3	73
3	17532	Eymen	Eymen234	19	3.2	17532	BL13	3	94
4	17236	Cemil	Cm3418	18	3.9	17236	T121	2	45
5	17123	Arif	Arf2332	24	3.2	17123	KM32	1	52
6	16458	Hayri	Hayri95	19	3.8	16458	BL13	3	53
7	17123	Arif	Arf2332	24	3.2	17123	BL44	4	75
8	16458	Hayri	Hayri95	19	3.8	16458	TR4	2	65
9	17123	Arif	Arf2332	24	3.2	17123	YM55	1	83

Right Join

table1

table2

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * **from** dersler d **right join** öğrenci o **on** o.öğrencino=d.öğrencino ;



öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zyp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

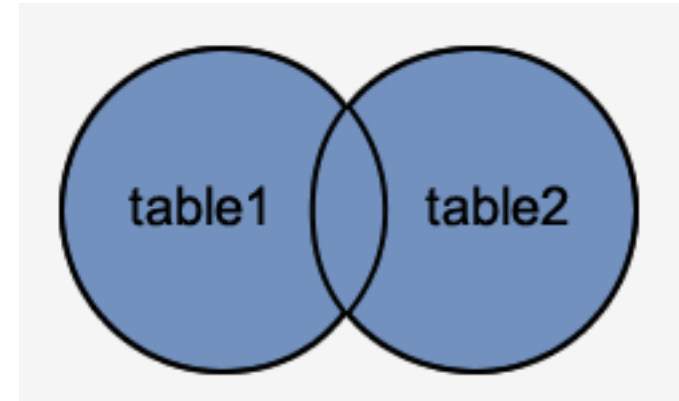
Select * from dersler d right join öğrenci o on o.öğrencino=d.öğrencino ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	17532	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	17327	Mustafa	m.4417	18	5
3	17532	BL13	3	94	17532	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	17236	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	17123	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	16458	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	17123	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	16458	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	17123	Arif	Arf2332	24	3.2
10	[null]	[null]	[null]	[null]	17355	Leyla	lyl34	25	4
11	[null]	[null]	[null]	[null]	17111	Mehmet	Mhmt4456	20	4
12	[null]	[null]	[null]	[null]	17346	Zeynep	zyp44	22	4.3

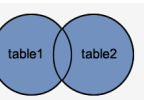
JOIN: Full Outer Join

Tabloların (Tablo 1 ve Tablo 2) her satırından birer tane bulunur
Belirtilen şarta uymayan değerlerin yerine iki tablo içinde NULL eklenir.

```
SELECT kolon(lar) FROM  
TABLO1 FULL OUTER JOIN TABLO2  
ON şartlar;
```



Full Outer Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

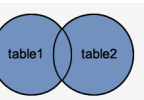
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select * from dersler d full join öğrenci o on o.öğrencino=d.öğrencino ;
```



Full Outer Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

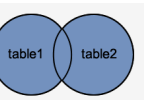
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d full join öğrenci o on o.öğrencino=d.öğrencino ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	17532	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	17327	Mustafa	m.4417	18	5
3	17532	BL13	3	94	17532	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	17236	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	17123	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	16458	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	17123	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	16458	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	17123	Arif	Arf2332	24	3.2
10	[null]	[null]	[null]	[null]	17355	Leyla	lyl34	25	4
11	[null]	[null]	[null]	[null]	17111	Mehmet	Mhmt4456	20	4
12	[null]	[null]	[null]	[null]	17346	Zeynep	zynp44	22	4.3

Full Outer Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

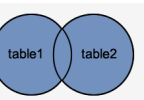
dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select * from öğrenci o full join dersler d on o.öğrencino=d.öğrencino ;
```



Full Outer Join



öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

```
Select * from öğrenci o full join dersler d on o.öğrencino=d.öğrencino ;
```

	öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
1	17532	Eymen	Eymen234	19	3.2	17532	BL44	4	85
2	17327	Mustafa	m.4417	18	5	17327	MK25	3	73
3	17532	Eymen	Eymen234	19	3.2	17532	BL13	3	94
4	17236	Cemil	Cm3418	18	3.9	17236	T121	2	45
5	17123	Arif	Arf2332	24	3.2	17123	KM32	1	52
6	16458	Hayri	Hayri95	19	3.8	16458	BL13	3	53
7	17123	Arif	Arf2332	24	3.2	17123	BL44	4	75
8	16458	Hayri	Hayri95	19	3.8	16458	TR4	2	65
9	17123	Arif	Arf2332	24	3.2	17123	YM55	1	83
10	17355	Leyla	lyl34	25	4	[null]	[null]	[null]	[null]
11	17111	Mehmet	Mhmt4456	20	4	[null]	[null]	[null]	[null]
12	17346	Zeynep	zynp44	22	4.3	[null]	[null]	[null]	[null]

Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural join öğrenci ;

Select * from dersler d natural inner join öğrenci ;



Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural join öğrenci ;

Select * from dersler d natural inner join öğrenci ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	Mustafa	m.4417	18	5
3	17532	BL13	3	94	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	Arif	Arf2332	24	3.2

Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural left join öğrenci ;



Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural left join öğrenci ;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	isim character varying (20)	kullanıcıadı character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	Mustafa	m.4417	18	5
3	17532	BL13	3	94	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	Arif	Arf2332	24	3.2

Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural right join öğrenci;



Natural Join

SELECT * FROM T1 NATURAL [INNER, LEFT, RIGHT] JOIN T2;

öğrenci

öğrencino integer	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
17532	Eymen	Eymen234	19	3.2
16458	Hayri	Hayri95	19	3.8
17327	Mustafa	m.4417	18	5
17111	Mehmet	Mhmt4456	20	4
17123	Arif	Arf2332	24	3.2
17236	Cemil	Cm3418	18	3.9
17355	Leyla	lyl34	25	4
17346	Zeynep	zynp44	22	4.3

dersler

öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric
17532	BL44	4	85
17327	MK25	3	73
17532	BL13	3	94
17236	T121	2	45
17123	KM32	1	52
16458	BL13	3	53
17123	BL44	4	75
16458	TR4	2	65
17123	YM55	1	83

Select * from dersler d natural right join öğrenci;

	öğrencino integer	derskodu character varying (20)	derskredi integer	dersnotu numeric	isim character varying (20)	kullaniciadi character varying (20)	yaş integer	ortalama numeric
1	17532	BL44	4	85	Eymen	Eymen234	19	3.2
2	17327	MK25	3	73	Mustafa	m.4417	18	5
3	17532	BL13	3	94	Eymen	Eymen234	19	3.2
4	17236	T121	2	45	Cemil	Cm3418	18	3.9
5	17123	KM32	1	52	Arif	Arf2332	24	3.2
6	16458	BL13	3	53	Hayri	Hayri95	19	3.8
7	17123	BL44	4	75	Arif	Arf2332	24	3.2
8	16458	TR4	2	65	Hayri	Hayri95	19	3.8
9	17123	YM55	1	83	Arif	Arf2332	24	3.2
10	17355	[null]	[null]	[null]	Leyla	lyl34	25	4
11	17111	[null]	[null]	[null]	Mehmet	Mhmt4456	20	4
12	17346	[null]	[null]	[null]	Zeynep	zynp44	22	4.3

PostgreSQL JOINS

`SELECT * FROM a
INNER JOIN b ON a.key = b.key`



`SELECT * FROM a
LEFT JOIN b ON a.key = b.key`



`SELECT * FROM a
RIGHT JOIN b ON a.key = b.key`



POSTGRES JOINS



`SELECT * FROM a
LEFT JOIN b ON a.key = b.key
WHERE b.key IS NULL`



`SELECT * FROM a
RIGHT JOIN b ON a.key = b.key
WHERE a.key IS NULL`



`SELECT * FROM a
FULL JOIN b ON a.key = b.key`



`SELECT * FROM a
FULL JOIN b ON a.key = b.key
WHERE a.key IS NULL OR b.key IS NULL`



<https://www.postgresqltutorial.com/postgresql-joins/>

Dinlediğiniz için
Teşekkürler...
İyi çalışmalar...