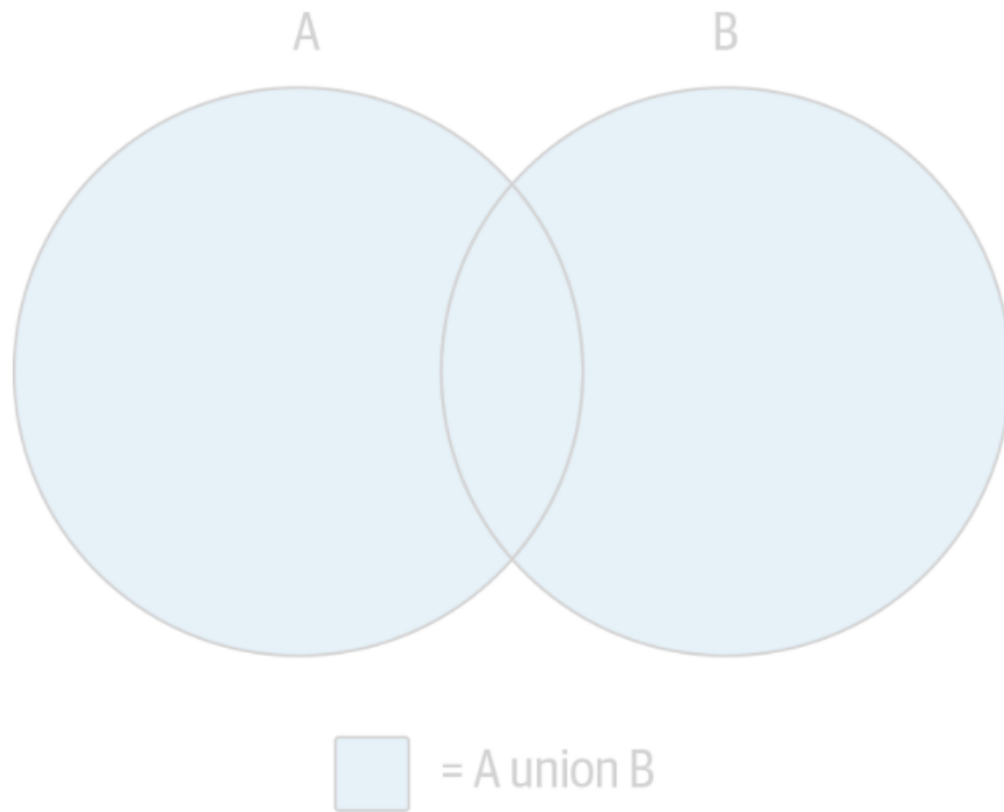


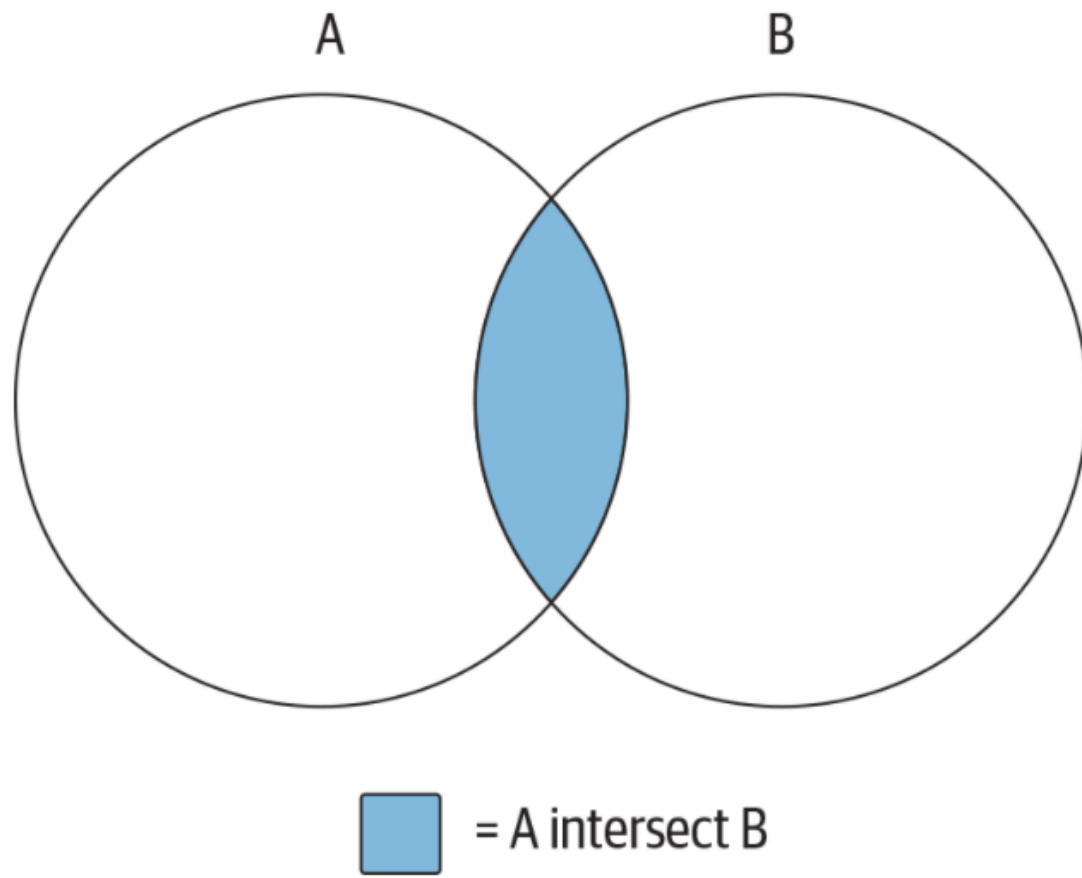
Darbas su duomenimis

6. Aibės

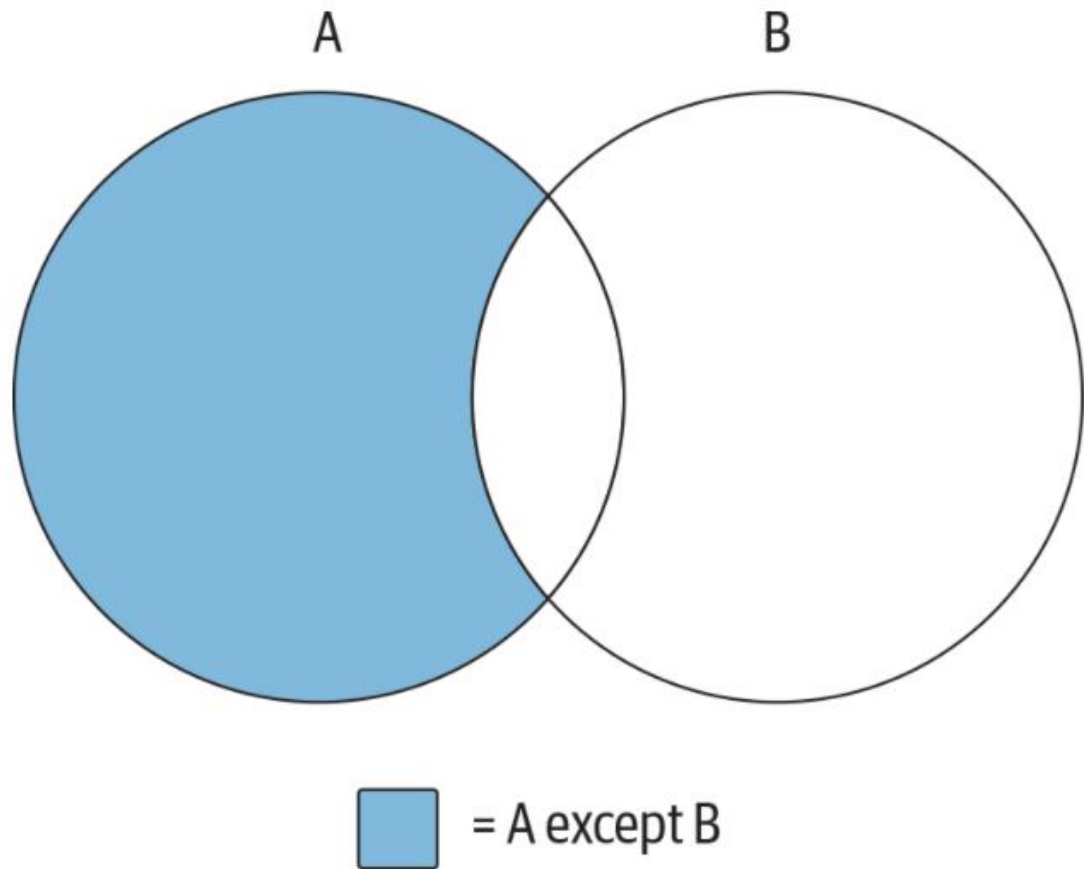
Sajunga



Sankirta

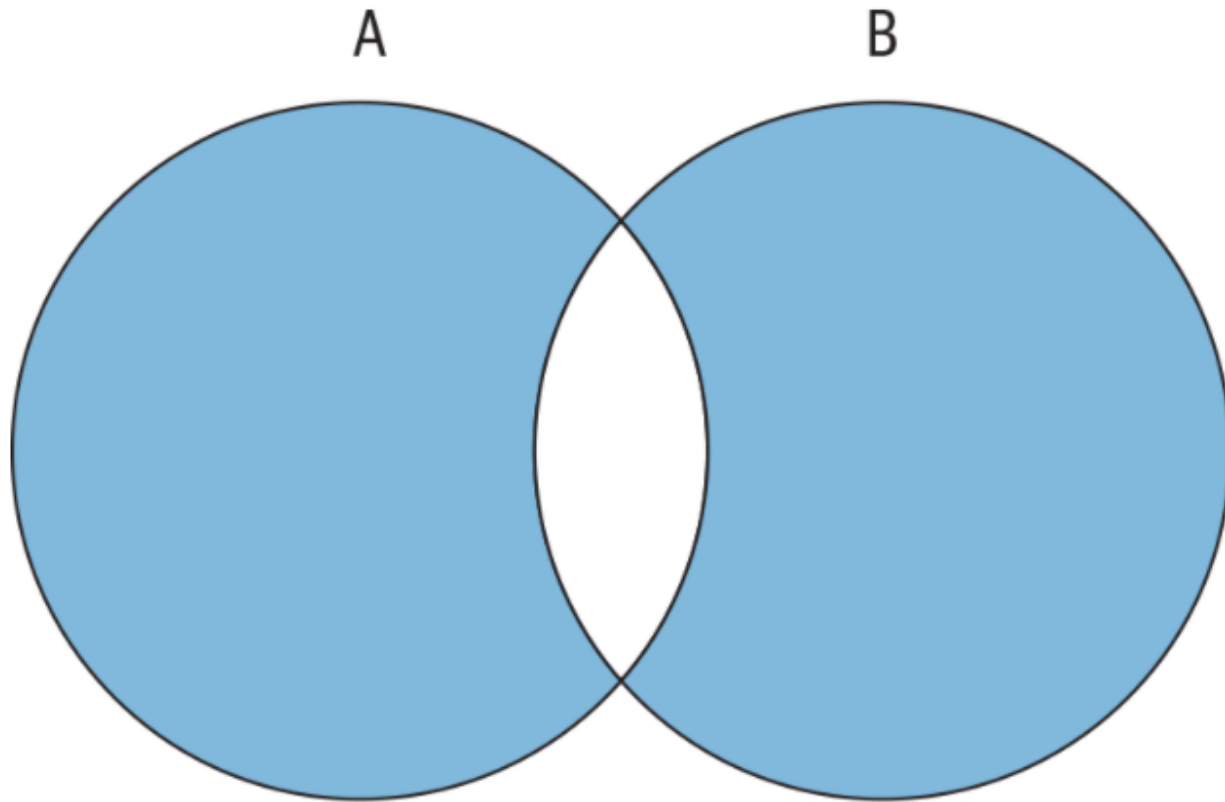


A minus B



A plus B minus A ir B sankirta

(A union B) except (A intersect B)



Lentelės eilučių sąjunga

```
SELECT 1 num, 'abc' str  
UNION  
SELECT 9 num, 'xyz' str;
```

- Abiejų lentelių stulpelių skaičius turi būti vienodas
- Stulpelių duomenų tipai turi sutapti arba būti konvertuojami iš vieno į kitą.

UNION ir UNION ALL operatoriai

- UNION – surikiuoja gautas eilutes ir pašalina dublikatus.
- UNION ALL – rezultato eilučių skaičius bus lygus sujungtų lentelių eilučių sumai.

```
SELECT 'CUST' typ, c.first_name, c.last_name  
FROM customer c  
UNION ALL  
SELECT 'ACTR' typ, a.first_name, a.last_name  
FROM actor a;
```

Su dublikatais

```
SELECT c.first_name, c.last_name  
FROM customer c  
WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%'  
UNION ALL  
SELECT a.first_name, a.last_name  
FROM actor a  
WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%';
```


Be dublikatų

```
SELECT c.first_name, c.last_name  
FROM customer c  
WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%'  
UNION  
SELECT a.first_name, a.last_name  
FROM actor a  
WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%';
```

INTERSECT operatorius

```
SELECT c.first_name, c.last_name
FROM customer c
WHERE c.first_name LIKE 'D%' AND c.last_name LIKE 'T%'
INTERSECT
SELECT a.first_name, a.last_name
FROM actor a
WHERE a.first_name LIKE 'D%' AND a.last_name LIKE 'T%';
```

```
SELECT c.first_name, c.last_name
FROM customer c
WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%'
INTERSECT
SELECT a.first_name, a.last_name
FROM actor a
WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%';
```

EXCEPT operatorius

```
SELECT a.first_name, a.last_name  
FROM actor a  
WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%'  
EXCEPT  
SELECT c.first_name, c.last_name  
FROM customer c  
WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%';
```

Eiliškumas yra svarbu!

```
SELECT a.first_name, a.last_name
  FROM actor a
 WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%'
UNION ALL
SELECT a.first_name, a.last_name
  FROM actor a
 WHERE a.first_name LIKE 'M%' AND a.last_name LIKE 'T%'
UNION
SELECT c.first_name, c.last_name
  FROM customer c
 WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%';
```

```
SELECT a.first_name, a.last_name
  FROM actor a
 WHERE a.first_name LIKE 'J%' AND a.last_name LIKE 'D%'
UNION
SELECT a.first_name, a.last_name
  FROM actor a
 WHERE a.first_name LIKE 'M%' AND a.last_name LIKE 'T%'
UNION ALL
SELECT c.first_name, c.last_name
  FROM customer c
 WHERE c.first_name LIKE 'J%' AND c.last_name LIKE 'D%';
```

Eilškumas

- Intersect vykdomas pirmas
- Union operacijos vykdomos iš viršaus į apačią

Užduotys

1. $A = \{L\ M\ N\ O\ P\}$, $B = \{P\ Q\ R\ S\ T\}$

1. A union B
2. A union all B
3. A intersect B
4. A except B

2. Raskite visus aktorių ir klientų vardus ir pavardes, kur pavardė prasideda L raide.

3. Surikiuokite rezultatus pagal last_name stulpelį.