

The SQL Set operation is used to combine the two or more SQL queries.

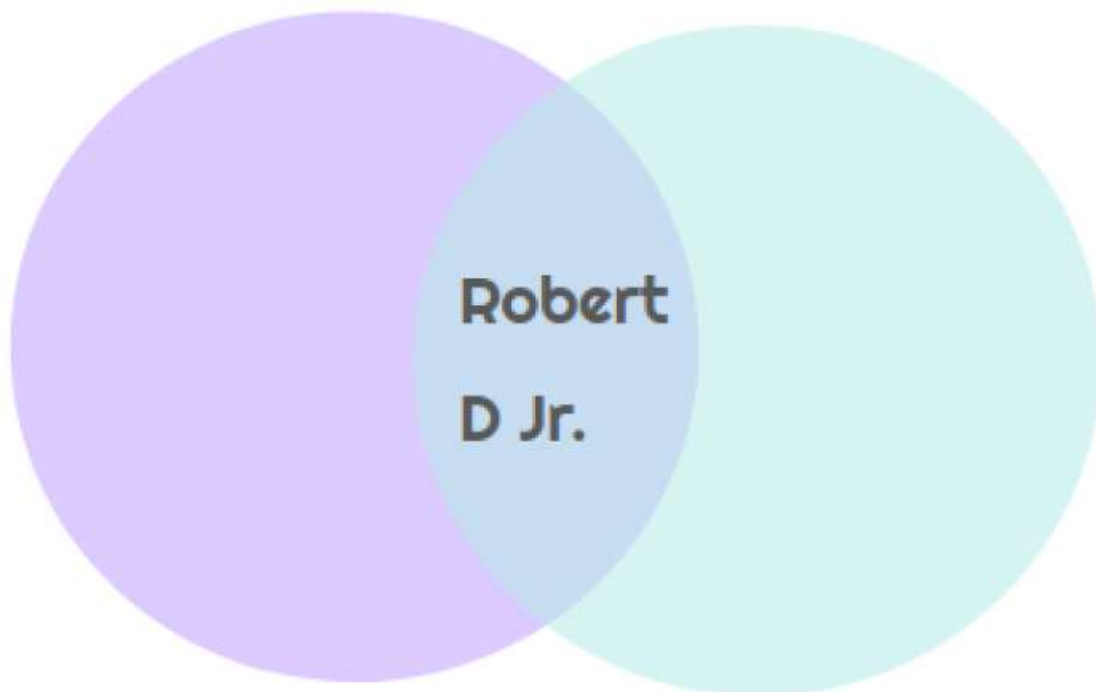
Let us understand common set operators by performing operations on two sets

- cast in "Sherlock Holmes" movie
- cast in "Avengers Endgame" movie



Common Set Operators

INTERSECT



Actors who acted in both Sherlock Holmes and Avengers Endgame

Result: Robert D Jr.

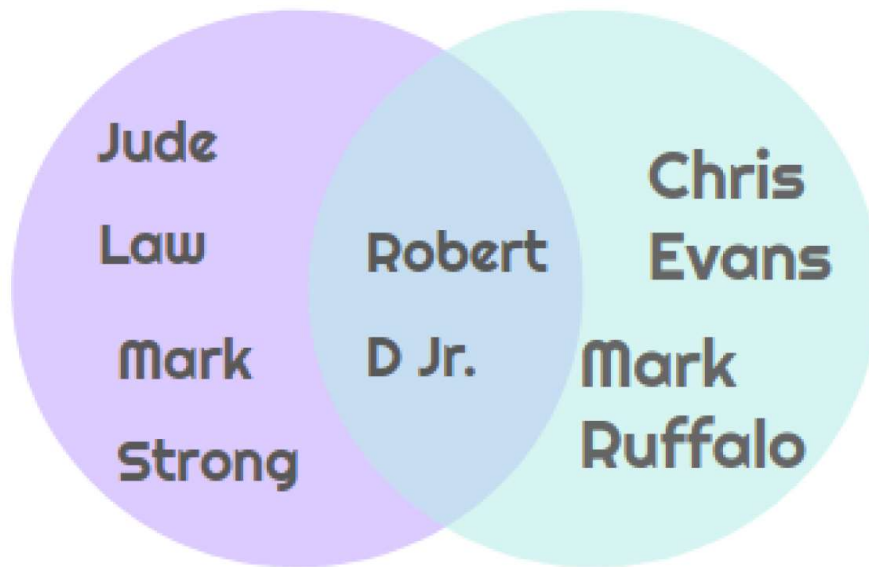
MINUS



Actors who acted in Sherlock Holmes and not in Avengers Endgame

Result: Jude Law, Mark Strong

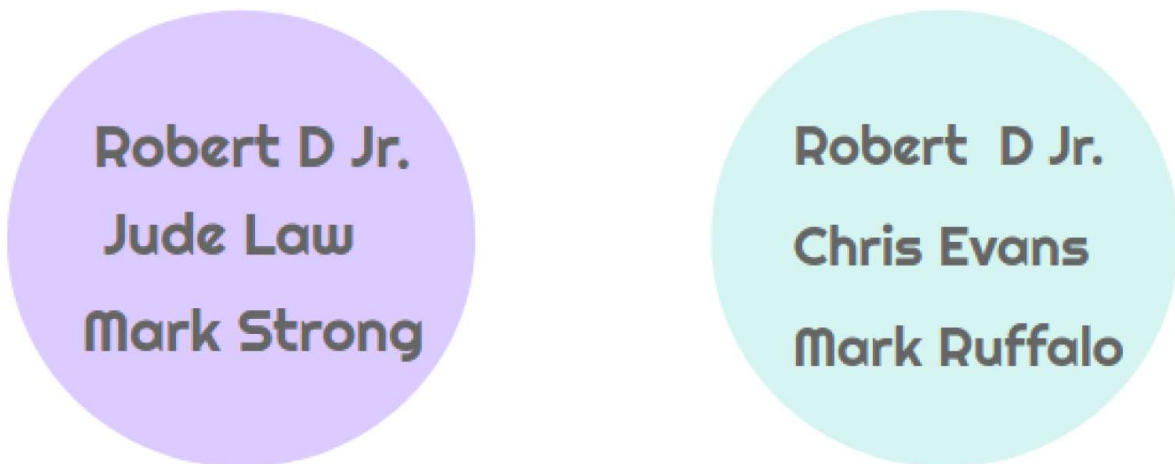
UNION



Unique actors who acted in Sherlock Holmes or in Avengers Endgame

Result: Jude Law, Mark Strong, Robert D Jr, Chris Evans, Mark Ruffalo

UNION ALL



Doesn't eliminate duplicate results

Result: Jude Law, Mark Strong, Robert D Jr, Robert D Jr, Chris Evans, Mark Ruffalo

Let's learn more about CASE clause using the given database

Database

The IMDb dataset which consists of **movies, actors and cast**. You can refer to the database in the code playground for a better understanding.

movie	cast	actor
id	actor_id	actor_id
name	movie_id	name
genre	role	age
budget_in_cr		
collection_in_cr		
rating		
release_date		

Applying Set Operations

We can apply these set operations on the one or more sql queries to combine their results

Syntax

```
1  SELECT
2      c1, c2
3  FROM
4      table_name
5  SET_OPERATOR
6  SELECT
7      c1, c2
8  FROM
9      table_name;
```

SQL

Basic rules when combining two sql queries using set operations

- Each SELECT statement must have the same number of columns
- The columns must have similar data types
- The columns in each SELECT statement must be in the same order

Examples

- Get ids of actors who acted in both Sherlock Holmes(id=6) and Avengers Endgame(id=15)?

SQL

SQL

```

1 SELECT actor_id
2 FROM cast
3 WHERE movie_id=6
4 INTERSECT
5 SELECT actor_id
6 FROM cast
7 WHERE movie_id=15;

```

Output

actor_id
6

- Get ids of actors who acted in Sherlock Holmes(id=6) and not in Avengers Endgame(id=15)?

SQL

```

1 SELECT actor_id
2 FROM cast
3 WHERE movie_id=6
4 EXCEPT
5 SELECT actor_id
6 FROM cast
7 WHERE movie_id=15;

```

Output

actor_id
16
21

- Get distinct ids of actors who acted in Sherlock Holmes(id=6) or Avengers Endgame(id=15).

SQL

```

1 SELECT actor_id
2 FROM cast
3 WHERE movie_id=6
4 UNION
5 SELECT actor_id
6 FROM cast
7 WHERE movie_id=15;

```

Output

actor_id
6
8
16
21
22

- Get ids of actors who acted in Sherlock Holmes(id=6) or Avengers Endgame(id=15).

SQL

```

1  SELECT actor_id
2  FROM cast
3  WHERE movie_id=6
4  UNION ALL
5  SELECT actor_id
6  FROM cast
7  WHERE movie_id=15;
```

Output

actor_id
6
16
21
6
8
22

Try it Yourself!

1. Get all the movie ids in which actors Robert Downey Jr. (id=6) & Chris Evans(id=22) have been casted
2. Get all the movie ids in which actor Robert Downey Jr. (id=6) is casted and not Chris Evans(id=22)
3. Get all the unique movie ids in which either actor Robert Downey Jr. (id=6) or Chris Evans(id=22) is casted

ORDER BY Clause in Set Operations

ORDER BY clause can appear only once at the end of the query containing multiple SELECT statements.

While using Set Operators, individual SELECT statements cannot have ORDER BY clause. Additionally, sorting can be done based on the columns that appear in the first SELECT query. For this reason, it is **recommended to sort this kind of queries using column positions**.

Example

Get distinct ids of actors who acted in Sherlock Holmes (id=6) or Avengers Endgame(id=15). Sort ids in the descending order.

```
1 SELECT actor_id
2 FROM cast
3 WHERE movie_id=6
4 UNION
5 SELECT actor_id
6 FROM cast
7 WHERE movie_id=15
8 ORDER BY 1 DESC;
```

SQL

Try it Yourself!

1. Get all the movie ids in which actor Robert Downey Jr. (id=6) is casted & not Chris Evans(id=22). Sort the ids in the descending order.

Pagination in Set Operations

Similar to ORDER BY clause, LIMIT and OFFSET clauses are used at the end of the list of queries.

Example

Get the first 5 ids of actors who acted in Sherlock Holmes (id=6) or Avengers Endgame(id=15). Sort ids in the descending order.

```
1 SELECT actor_id
2 FROM cast
3 WHERE movie_id=6
4 UNION
5 SELECT actor_id
6 FROM cast
7 WHERE movie_id=15
8 ORDER BY 1 DESC
```

SQL

```
9  LIMIT 5;
```

Try it Yourself!

1. Get the first 5 unique movie ids in which either actor Robert Downey Jr. (id=6) or Ryan Reynolds(id=7) is casted. Sort ids in the descending order.



MARKED AS COMPLETE