

## Database

The database contains movies, actors, and cast. You can check the schema and data of movies, actors, and cast tables in the code playground.

## Schema

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

## Arithmetic Functions

Arithmetic functions in SQL are used to perform mathematical operations on numeric values. Some commonly used arithmetic functions are

FLOOR , CEIL , and ROUND .

### FLOOR Function

The

FLOOR function rounds a number to the nearest integer below its current value.

### Syntax

```
1 FLOOR(number)
```

SQL

### Example

```
1 SELECT FLOOR(2.3);
```

SQL

### Output

FLOOR

2

CEIL Function

The

**CEIL** function rounds a number to the nearest integer above its current value.

Syntax

```
1 CEIL(number)
```

SQL

Example

```
1 SELECT CEIL(-2.7);
```

SQL

Output

CEIL

-2

ROUND Function

The

**ROUND** function rounds a number to a specified number of decimal places.

Syntax

```
1 ROUND(number, decimal_places)
```

SQL

Example

```
1 SELECT ROUND(2.345, 2);  
2 SELECT ROUND(2.345, 1);
```

SQL

Output

ROUND
2.35
2.3

You can use these arithmetic functions in your SQL queries to perform calculations and manipulate numeric values as needed.

The below-given values are some examples for the

FLOOR , CEIL , and ROUND .

	2.3	3.9	4.0	5.5
FLOOR	2	3	4	5
CEIL	3	4	4	6
ROUND	2	4	4	6

Example

1. Fetch the ceil, floor, and round (to 1 decimal) values of the collections of all movies.

SQL

```

1  SELECT
2    name,
3    ROUND(collection_in_cr, 1) AS RoundedValue,
4    CEIL(collection_in_cr) AS CeilValue,
5    FLOOR(collection_in_cr) AS FloorValue
6  FROM
7    movie;
```

From the above query,

- We want to get the data from the `movie` table.
- We use the `ROUND()` function for round the `collection_in_cr` to `1` decimal.
- We use the `CEIL()` function for round the `collection_in_cr` to the nearest integer above its current value..
- We use the `FLOOR()` function for round `collection_in_cr` to the nearest integer below its current value..

**Output**

name	RoundedValue	CeilValue	FloorValue
The Matrix	46.4	47	46
Inception	83.7	84	83
The Dark Knight	100.5	101	100
...	...	...	...

### String Functions

String functions in SQL are used to manipulate and operate on string values or character data.

SQL Function	Behavior
UPPER()	Converts a string to upper case
LOWER()	Converts a string to lowercase

### Example

To search for all the Avengers movies regardless of their case(Upper/Lower), you can use write a query below

SQL

```
1 SELECT
2   name
3 FROM
4   movie
5 WHERE
6   UPPER(name) LIKE UPPER("%avengers%");
```

### Output

name
Avengers: Age of Ultron
Avengers: Endgame
Avengers: Infinity War





## Note

Usually, UPPER() AND LOWER() functions can help you to perform case-insensitive searches.

Try it Yourself!

Now that you've learned about

Arithmetic

Functions and

String

Functions in SQL, let's try some practice exercises. Here are four example questions:

### Question 1

For each movie, get the ceil, floor, and round (to 1 decimal) values of the budget.

#### Approach

We need to retrieve the ceil, floor, and round values of the budget for each movie.

#### Expected Output

name	round_value	ceil_value	floor_value
The Matrix	6.3	7	6
Inception	16	16	16
The Dark Knight	18	18	18
...	...	...	...

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### Question 2

Get the average rating of movies released in the year

2010

and round to the

1

decimal value.

#### Approach

We need to retrieve the average rating of movies released in the year

2010 .

### Expected Output

avg_rating
7.8

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### Question 3

Get all the collections of all movies in the database that are greater than

250 .

#### Approach

We need to retrieve the collections of all movies in the database that are greater than

250 .

### Expected Output

collection
723
266
600
600
...

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### Question 4

Get all the movie names that are released in 2010 and belong to the "Action" genre.

#### Approach

We need to retrieve the movie names of movies released in 2010 and belonging to the

"Action" genre.

### Expected Output

movie_name
Inception
Iron Man 2
Thor
Spider-Man: Homecoming
...

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