

Expressions in Querying

We can write **expressions** in various SQL clauses. Expressions can comprise of various data types like integers, floats, strings, datetime, etc.

Let's learn more about expressions using the following database.

Database

The IMDb stores various *movies*, *actors* and *cast* information.

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

Using Expressions in SELECT Clause

1. Get profits of all movies.

Note: Consider profit as the difference between collection and budget.

```
1 SELECT
2     id, name, (collection_in_cr-budget_in_cr) as profit
3 FROM
4     movie;
```

SQL

Output

id	name	profit
1	The matrix	40.31
2	Inception	67.68

id	name	profit
3	The Dark Knight	82.5
...

Note

We use "||" operator to concatenate strings in sqlite3

2. Get the movie `name` and `genre` in the following format: `movie_name - genre` .

SQL

```
1  SELECT
2    name || " - " || genre AS movie_genre
3  FROM
4    movie;
```

Output

movie_genre
The Matrix - Sci-fi
Inception - Action
The Dark Knight - Drama
Toy Story 3 - Animation
...

Using Expressions in WHERE Clause

1. Get all the movies with a profit of at least 50 crores.

SQL

```
1  SELECT
2    *
3  FROM
4    movie
5  WHERE
6    (collection_in_cr - budget_in_cr) >= 50;
```

Output

id	name	genre	budget_in_cr	collection_in_cr	
2	Inception	Action	16.0	83.68	
3	The Dark Knight	Action	18.0	100.5	
4	Toy Story 3	Animation	20.0	106.7	
...	

Using Expressions in UPDATE Clause

1. Scale down ratings from 10 to 5 in movie table.

[SQL](#)

```
1 UPDATE movie
2 SET rating = rating/2;
```

You can check the updation of movie ratings by retrieving the data from the table.

Expressions in HAVING Clause

Get all the genres that have average profit greater than 100 crores.

[SQL](#)

```
1 SELECT
2     genre
3 FROM
4     movie
5 GROUP BY
6     genre
7 HAVING
8     AVG(collection_in_cr - budget_in_cr) >= 100;
```

Output

genre
Action
Animation
Mystery
...

Try it Yourself!

Question 1

Get the profit of every movie with

rating greater than 8.0

Expected Output

id	name	genre	budget_in_cr	collection_in_cr	
1	The Matrix	Sci-fi	6.3	46.43	
2	Inception	Action	16	83.68	
3	The Dark Knight	Drama	18	100.5	
...	

Question 2

Get all the movies having a

profit of at least 30 crores, and belong to "Action", "Animation" or "Drama" genres.

Expected Result

id	name	genre	budget_in_cr	collection_in_cr	
2	Inception	Action	16	83.68	
3	The Dark Knight	Drama	18	100.5	
4	Toy Story 3	Animation	20	106.7	

id	name	genre	budget_in_cr	collection_in_cr	
...

Question 3

Scale up the ratings from 5 to 100 in the movie table.