

The Sequel to SQL

Level 1 – Section 1

Common Aggregate Functions

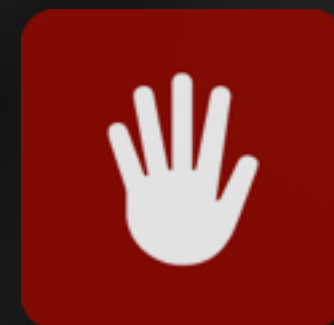
Finding the Number of Rows

How do we find the total number of rows in the Movies table?

Movies

title	cost	duration
Gone With the Wind	390,000	220
Frankenstein	3,000,000	50
Creature From the Black Lagoon	500,000	79
<i>NULL</i>	100	10

```
SELECT *  
FROM Movies;
```



We could pull a list and count them programmatically, but there's a better way.

Using the COUNT Function

Here's a way to get the total number of rows in the table.

Movies		
title	cost	duration
Gone With the Wind	390,000	220
Frankenstein	3,000,000	50
Creature From the Black Lagoon	500,000	79
NULL	100	10

NULL rows still
included in count.

```
SELECT count(*)  
FROM Movies;
```



count

4

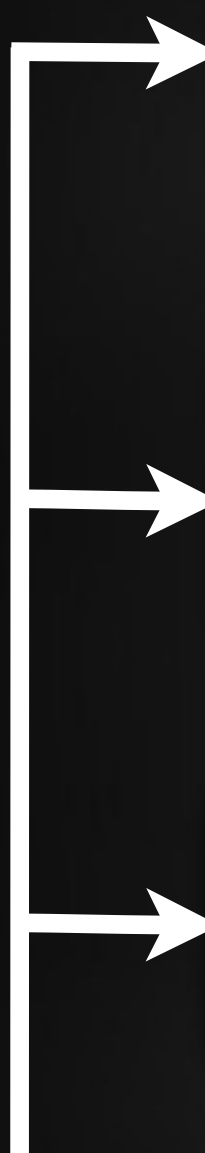
(1 row)



Introducing the SQL Aggregate Functions

```
SELECT count(column_name)
FROM table_name;
```

Returns the **total number of rows** that match our search.



```
SELECT sum(column_name)
FROM table_name;
```

Returns the **added sum of values** for a group of rows.

```
SELECT avg(column_name)
FROM table_name;
```

Returns the **calculated average value** for a group of rows.

```
SELECT max(column_name)
FROM table_name;
```

Returns the **largest value** in a group of rows.

```
SELECT min(column_name)
FROM table_name;
```

Returns the **smallest value** in a group of rows.

These only work if columns contain numbers!

Using COUNT With a Column Name

Movies		
title	cost	duration
Gone With the Wind	390,000	220
Frankenstein	3,000,000	50
Creature From the Black Lagoon	500,000	79
NULL	100	10

This row is ignored.

```
SELECT count( title)
FROM Movies;
```



count

3

(1 row)

Using the SUM Function

How do we find the total cost of producing all our movies?

Movies		
title	cost	duration
Gone With the Wind	390,000	220
Frankenstein	3,000,000	50
Creature From the Black Lagoon	500,000	79

```
SELECT sum(cost)
FROM Movies;
```



sum
3890000.00
(1 row)

Using the AVG Function

How do we find the average number of tickets that were sold for all movies?

Movies

title	tickets
Gone With the Wind	1,500
Frankenstein	750
Creature From the Black Lagoon	801

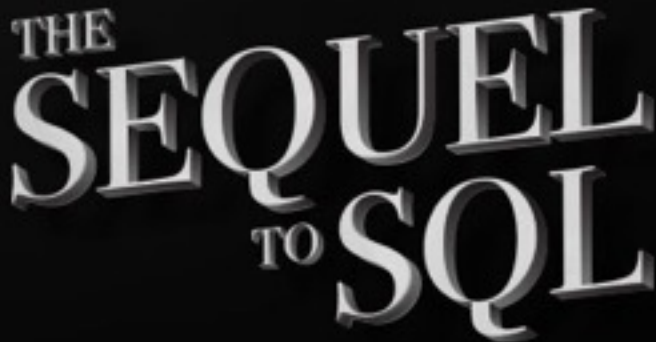
```
SELECT avg(tickets)
FROM Movies;
```



avg

1017.0000000000000000

(1 row)



Using the MAX or MIN Functions

How do we find the highest and lowest number of tickets sold?

Movies

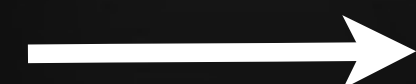
title	tickets
Gone With the Wind	1,500
Frankenstein	750
Creature From the Black Lagoon	801

```
SELECT max(tickets)
FROM Movies;
```



```
max
-----
1500
(1 row)
```

```
SELECT min(tickets)
FROM Movies;
```



```
min
-----
750
(1 row)
```


Using the MAX and MIN Functions Together

Movies

title

tickets

Gone With the Wind

1,500

Frankenstein

750

Creature From the Black Lagoon

801

```
SELECT max(tickets), min(tickets)
FROM Movies;
```



max		min
1500		750
(1 row)		