

Aggregate functions:

1) COUNT:

- COUNT function is used to Count the number of rows in a database table. It can work on both numeric and non-numeric data types.
- COUNT function uses the COUNT(*) that returns the count of all the rows in a specified table. COUNT(*) considers duplicate and Null.
- Below screenshot is our database named University having table stud.

	roll_no	name	age	subject	department
1	shubham	22	ece	b.tech	
2	jatin	24	cse	diploma	
3	prithvi	20	accounts	mba	
4	divya	20	maths	mca	
5	gyeshna	21	physics	bca	
6	shubham	22	ece	diploma	
	HULL	NULL	NULL	NULL	NULL

Query: SELECT COUNT(*) FROM stud;

Output:

The screenshot shows the MySQL Workbench interface. A query window is open with the following content:

```
31 •    SELECT COUNT(*) FROM stud;
```

Below the query window, there is a results grid labeled "result Grid". The grid has one row and two columns. The first column is labeled "COUNT(*)" and contains the value "6". There is also a "Filter Rows:" input field at the bottom of the grid.

2) SUM: Sum function is used to calculate the sum of all selected columns. It works on numeric fields only.

Query: SELECT SUM(age) FROM stud;

Output:

```
33 •      SELECT SUM(age) FROM stud;
```

Result Grid | Filter Rows:

SUM(age)
129

3)AVG: The AVG function is used to calculate the average value of the numeric type. AVG function returns the average of all non-Null values.

Query: `SELECT AVG(age) FROM stud;`

```
35 •      SELECT AVG(age) FROM stud;
```

Result Grid | Filter Rows:

AVG(age)
21.5000

4)MAX : MAX function is used to find the maximum value of a certain column. This function determines the largest value of all selected values of a column.

Query: `SELECT MAX(age) FROM stud;`

Output:

```
39 •      SELECT MAX(age) FROM stud;
```

Result Grid | Filter Rows:

MAX(age)
24

5)MIN: MIN function is used to find the minimum value of a certain column. This function determines the smallest value of all selected values of a column.

Query: `SELECT MIN(age) FROM stud;`

Output:

```
37 •      SELECT MIN(age) FROM stud;
```

Result Grid | Filter Rows: | E

MIN(age)
20

Conditional Statements:

CASE: The CASE statement goes through conditions and returns a value when the first condition is met (like an if-then-else statement). So, once a condition is true, it will stop reading and return the result. If no conditions are true, it returns the value in the ELSE clause.

If there is no ELSE part and no conditions are true, it returns NULL.

QUERY: SELECT * ,

```
    CASE
        WHEN age>21 THEN 'YOU ARE ELIGIBLE TO GO CLUB'
        WHEN age=21 THEN 'WAIT FOR 1 YEAR TO GET ELIGIBLE'
        ELSE 'WHEN YOU WILL BE 22 THEN YOU ARE ELIGIBLE'
    END AS INSTRUCTIONS
FROM stud;
```

Output:

```

41 •   SELECT * ,
42   CASE
43     WHEN age>21 THEN 'YOU ARE ELIGIBLE TO GO CLUB'
44     WHEN age=21 THEN 'WAIT FOR 1 YEAR TO GET ELIGIBLE'
45     ELSE 'WHEN YOU WILL BE 22 THEN YOU ARE ELIGIBLE'
46   END AS INSTRUCTIONS
47   FROM stud;
48
49 • CREATE TABLE Employee(Emp_id NUMERIC NOT NULL, Name VARCHAR(20) ,

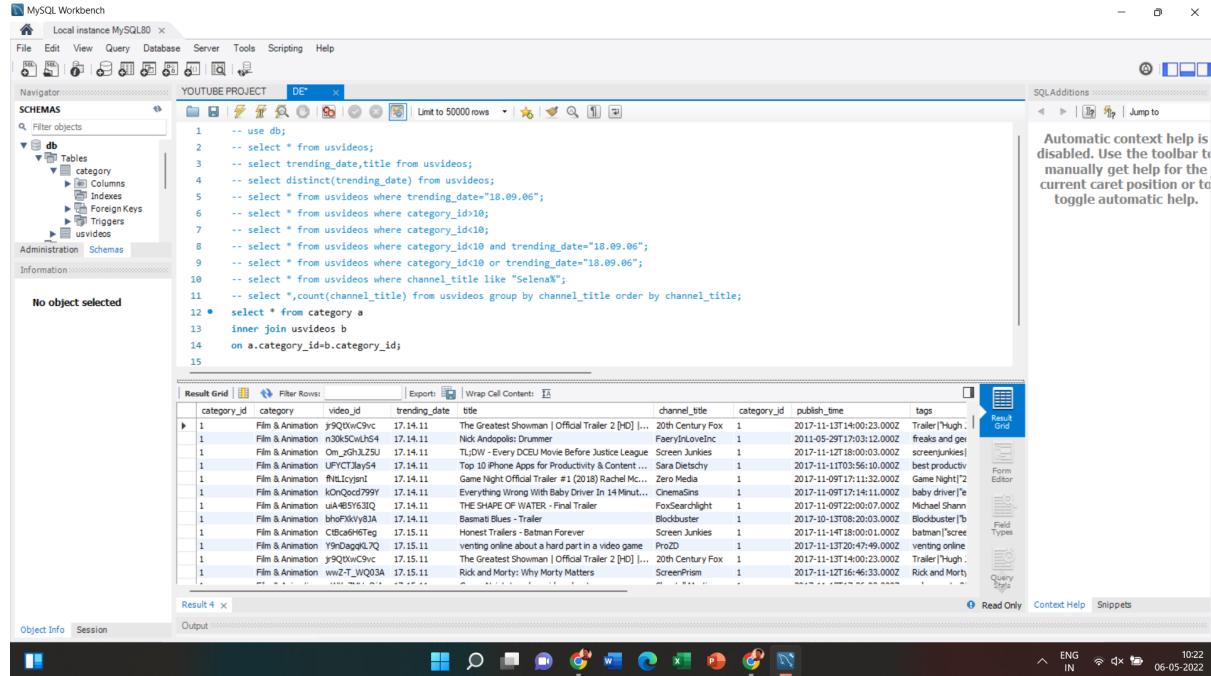
```

result Grid | Filter Rows: Export: Wrap Cell Content:

roll_no	name	age	subject	department	INSTRUCTIONS
1	shubham	22	ece	b.tech	YOU ARE ELIGIBLE TO GO CLUB
2	jatin	24	cse	diploma	YOU ARE ELIGIBLE TO GO CLUB
3	prithvi	20	accounts	mba	WHEN YOU WILL BE 22 THEN YOU ARE ELIGIBLE
4	divya	20	maths	mca	WHEN YOU WILL BE 22 THEN YOU ARE ELIGIBLE
5	gyesha	21	physics	bca	WAIT FOR 1 YEAR TO GET ELIGIBLE
6	shubham	22	ece	diploma	YOU ARE ELIGIBLE TO GO CLUB

Inner Join

select * from category a
 inner join usvideos b
 on a.category_id=b.category_id;

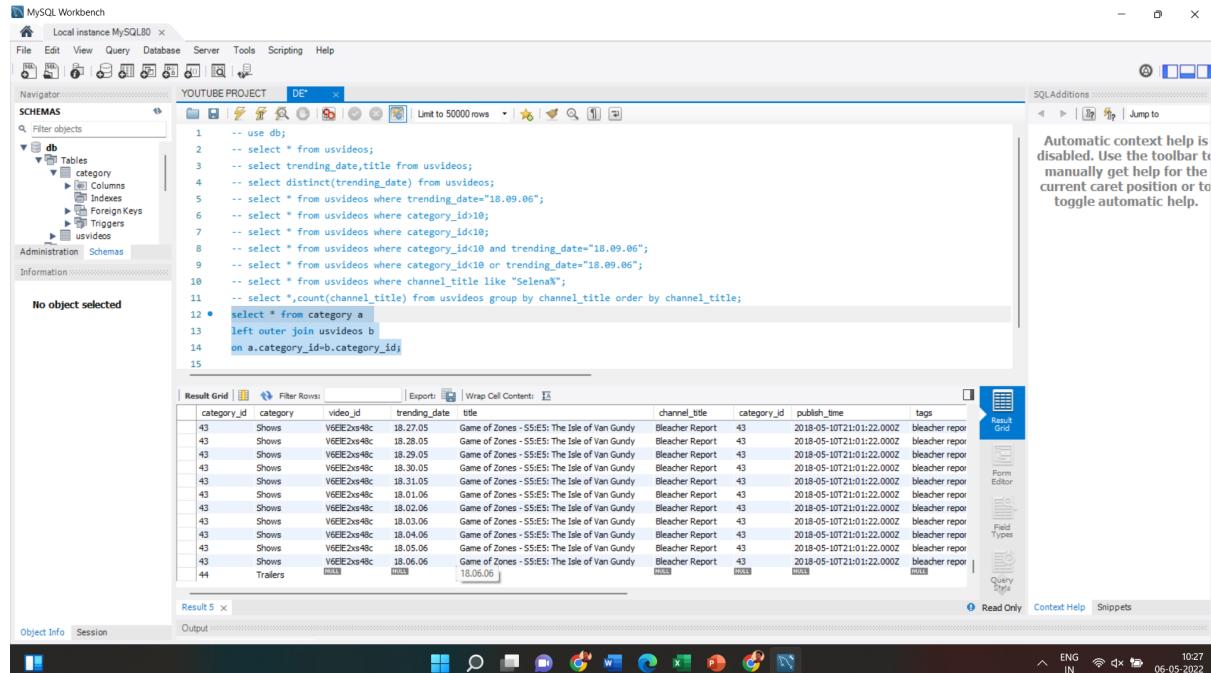


```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id<10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "%Selena%";
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • select * from category a
13 inner join usvideos b
14 on a.category_id=b.category_id
15
```

category_id	category	video_id	trending_date	title	channel_title	category_id	publish_time	tags
1	Film & Animation	ySQDxvC9vc	17.14.11	The Greatest Showman Official Trailer 2 [HD] ...	20th Century Fox	1	2017-11-13T14:00:23.000Z	Trailer Hugh...
1	Film & Animation	n3OkcDwzC4	17.14.11	Nick Almond's Deathbed Message	FaeryInLoveInc	1	2017-05-12T03:56:10.000Z	deathbed mes...
1	Film & Animation	oJLzD2Q	17.14.11	TULLY - Official Movie Before Justice League	Sara Gleiter	1	2017-11-12T14:00:00.000Z	best movie before Justice League
1	Film & Animation	UFLCdy4	17.14.11	Top 10 iPhone Apps for Productivity & Content	Zero Media	1	2017-11-09T17:11:23.000Z	best productivity
1	Film & Animation	kOnQocdt799Y	17.14.11	Game Night Official Trailer #1 (2018) Rachel Mc...	CinemaSins	1	2017-11-09T17:14:11.000Z	baby driver re...
1	Film & Animation	uA8SY13Q	17.14.11	Everything Wrong With Baby Driver In 14 Minutes...	FoxSearchlight	1	2017-11-09T22:00:07.000Z	Michael Shann...
1	Film & Animation	hDqXkyv3A	17.14.11	THE SHAPE OF WATER - Final Trailer	Blockbuster	1	2017-10-13T08:26:03.000Z	Blockbuster b...
1	Film & Animation	CBuq9tGta	17.15.11	Batman Blues - Trailer	Screen Junkies	1	2017-11-14T18:00:01.000Z	batman scree...
1	Film & Animation	Y9nDappg7Q	17.15.11	venting online about a hard part in a video game	ProZD	1	2017-11-13T20:47:49.000Z	venting online
1	Film & Animation	ySQDxvC9vc	17.15.11	The Greatest Showman Official Trailer 2 [HD] ...	20th Century Fox	1	2017-11-13T14:00:23.000Z	Trailer Hugh...
1	Film & Animation	wWz_T_WQ03A	17.15.11	Rick and Morty: Why Morty Matters	ScreenPrism	1	2017-11-12T16:46:33.000Z	Rick and Morty

Left outer join

select * from category a
 left outer join usvideos b
 on a.category_id=b.category_id;



```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id<10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "%Selena%";
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • select * from category a
13 left outer join usvideos b
14 on a.category_id=b.category_id
15
```

category_id	category	video_id	trending_date	title	channel_title	category_id	publish_time	tags
43	Shows	V6EE2x4Bc	18.27.05	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.28.05	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.29.05	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.30.05	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.31.05	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.01.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.02.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.03.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.04.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.05.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
43	Shows	V6EE2x4Bc	18.06.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...
44	Trailers	0000000000000000	18.06.06	Game of Zones - S5:E5: The Isle of Van Gundy	Bleacher Report	43	2018-05-10T21:01:22.000Z	bleacher repor...

Right Outer Join

```
select * from category a
right outer join usvideos b
on a.category_id=b.category_id;
```

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Local instance MySQL80, Schemas, db, Tables, category, usvideos.
- SQL Editor:** YOUTUBE PROJECT, DE*, SQL code:

```
1 -- use db;
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date='18.09.06';
6 -- select * from usvideos where category_id<10;
7 -- select * from usvideos where category_id>10;
8 -- select * from usvideos where category_id<10 and trending_date='18.09.06';
9 -- select * from usvideo where category_id>10 or trending_date='18.09.06';
10 -- select * from usvideo where channel_title like "Selena%";
```

Line 12 is highlighted with a blue dot.- Result Grid:** Shows the results of the query. The columns are: category_id, category, video_id, trending_date, title, channel_title, category_id, publish_time, tz. The data includes various video entries with their respective categories and titles.
- Toolbar:** Includes icons for Run, Stop, Refresh, Save, Copy, Paste, etc.
- Status Bar:** Result 6, Read Only, Context Help, Snippets, ENG IN, 10:28, 06-05-2022.

Full Outer Join

```
SELECT * FROM usvideos t1
LEFT JOIN category t2 ON t1.category_id = t2.category_id
UNION
SELECT * FROM usvideos t1
RIGHT JOIN category t2 ON t1.category_id = t2.category_id;
```

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (db), Tables (category), Columns, Indexes, Foreign Keys, Triggers, usvideos.
- SQL Editor:** The SQL code is displayed, including the UNION operation combining results from a LEFT JOIN and a RIGHT JOIN.
- Result Grid:** A table titled "Result Grid" displays the query results. The columns are: video_id, trending_date, title, channel_title, category_id, publish_time, and tags. The results show various video entries with their respective details.
- Bottom Status:** Shows the system tray with icons for network, battery, and date/time (10:33, 06-05-2022).

video_id	trending_date	title	channel_title	category_id	publish_time	tags
2ky565vSYE	17.14.11	WE WANT TO TALK ABOUT OUR MARRIAGE	CaseyNeistat	22	2017-11-13T17:13:01.000Z	SHAnell martin
12APvrfrAFY	17.14.11	The Trump Presidency: Last Week Tonight with ...	LastWeekTonight	24	2017-11-13T07:30:00.000Z	last week tonight trump presidency["last w
SqgjKSDqC4	17.14.11	Racist Superman Rudy Mancuso, King Bach & ...	Rudy Mancuso	23	2017-11-12T19:05:24.000Z	racist superman["rudy"]"mancuso" "king"
pugqWtEC7Y	17.14.11	Nickelback Lyrics: Real or Fake?	Good Mythical Morning	24	2017-11-13T11:00:04.000Z	rhet and link["gmm"]"good mythical morni
d38omeDOW0M	17.14.11	I Dare You: GOING BALD?	nigahiga	24	2017-11-12T18:01:41.000Z	ryan higa "nigahiga" "nigahiga" "i dare yo
ghfZ1QzQ0KM	17.14.11	2 Weeks with iPhone X	Justine	28	2017-11-13T19:07:23.000Z	(justine)"week with iPhone X" "phone x"
39dVpF7NQ	17.14.11	Roy Moore & Jeff Sessions Cold Open - SNL	Saturday Night Live	24	2017-11-12T05:37:17.000Z	SNL ("Saturday Night Live")"SNL Season 4:
nc99cs5NST0	17.14.11	5 Ice Cream Gadgets put to the Test	CrazyRussianHacker	28	2017-11-12T21:50:37.000Z	5 Ice Cream Gadget ["Ice Cream"]"Cream
yRQKwvC9c	17.14.11	The Greatest Showman Official Trailer 2 [HD] ...	20th Century Fox	1	2017-11-13T14:00:23.000Z	Trailer ["Hugh Jackman"]"Michelle Williams"
1HbBmJUWKA	17.12.11	Take the one of the most interesting men that ...	Gov	76	2017-11-19T11:26:12.700Z	take most interesting men that ["most interesting men"]

MultiCondition Join

```
SELECT * FROM usvideos t1
inner join usvideos t2 on t1.category_id=t2.category_id and t1.comment_count<100;
```

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Local instance MySQL80, YOUTUBE PROJECT, DE*.
- Schemas:** db (Tables: Category, usvideos, Views, Stored Procedures, Functions), sys.
- SQL Editor:**

```

1 -- use db;
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date="18.09.06";
6 -- select * from usvideos where category_id>10;
7 -- select * from usvideos where category_id<10;
8 -- select * from usvideos where category_id<10 and trending_date="18.09.06";
9 -- select * from usvideos where category_id<10 or trending_date="18.09.06";
10 -- select * from usvideos where channel_title like "SelenaN";
11 -- select ",count(channel_title)" from usvideos group by channel_title order by channel_title;
12 • SELECT * FROM usvideos t1
13 inner join usvideos t2 on t1.category_id=t2.category_id and t1.comment_count<100;
14
15
16

```
- Result Grid:** Shows a table with columns: category_id, publish_time, tags, views, likes, dislikes, comment_count, comments_disabled, ratings_disabled, user_interaction, video_id. The data consists of 25 rows of sample video data.
- Status Bar:** ENG IN 06-05-2022 11:04

UNION

```
SELECT * FROM category t1
union select * from category t2;
```

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- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Local instance MySQL80, YOUTUBE PROJECT, DE*.
- Schemas:** db (Tables: category, usvideos, Views, Stored Procedures, Functions), sys.
- SQL Editor:**

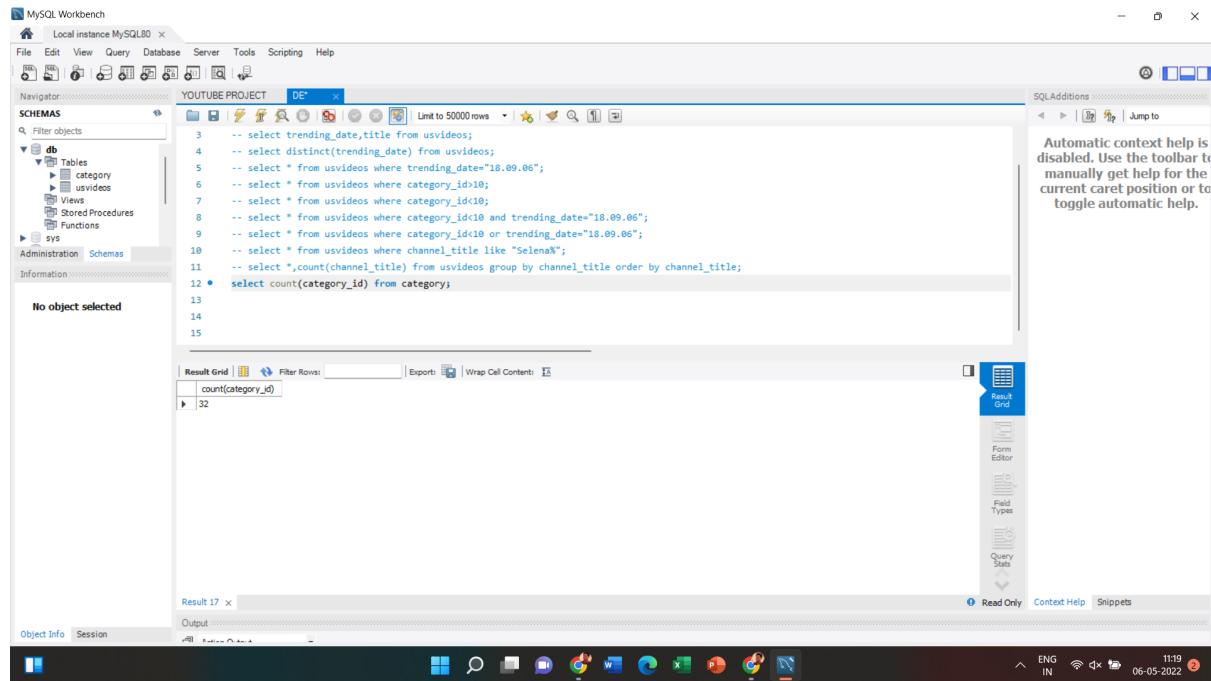
```

1 -- use db;
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date="18.09.06";
6 -- select * from usvideos where category_id>10;
7 -- select * from usvideos where category_id<10;
8 -- select * from usvideos where category_id<10 and trending_date="18.09.06";
9 -- select * from usvideos where category_id<10 or trending_date="18.09.06";
10 -- select * from usvideos where channel_title like "SelenaN";
11 -- select ",count(channel_title)" from usvideos group by channel_title order by channel_title;
12 • SELECT * FROM category t1
13 union select * from category t2;

```
- Result Grid:** Shows a table with columns: category_id, category. The data lists 27 categories: Film & Animation, Autos & Vehicles, Music, Pets & Animals, Sports, Short Movies, Travel & Events, Gaming, Videoblogging, People & Blogs, Comedy, Entertainment, News & Politics, Howto & Style, Education.
- Status Bar:** ENG IN 06-05-2022 11:13

COUNT

select count(category_id) from category;

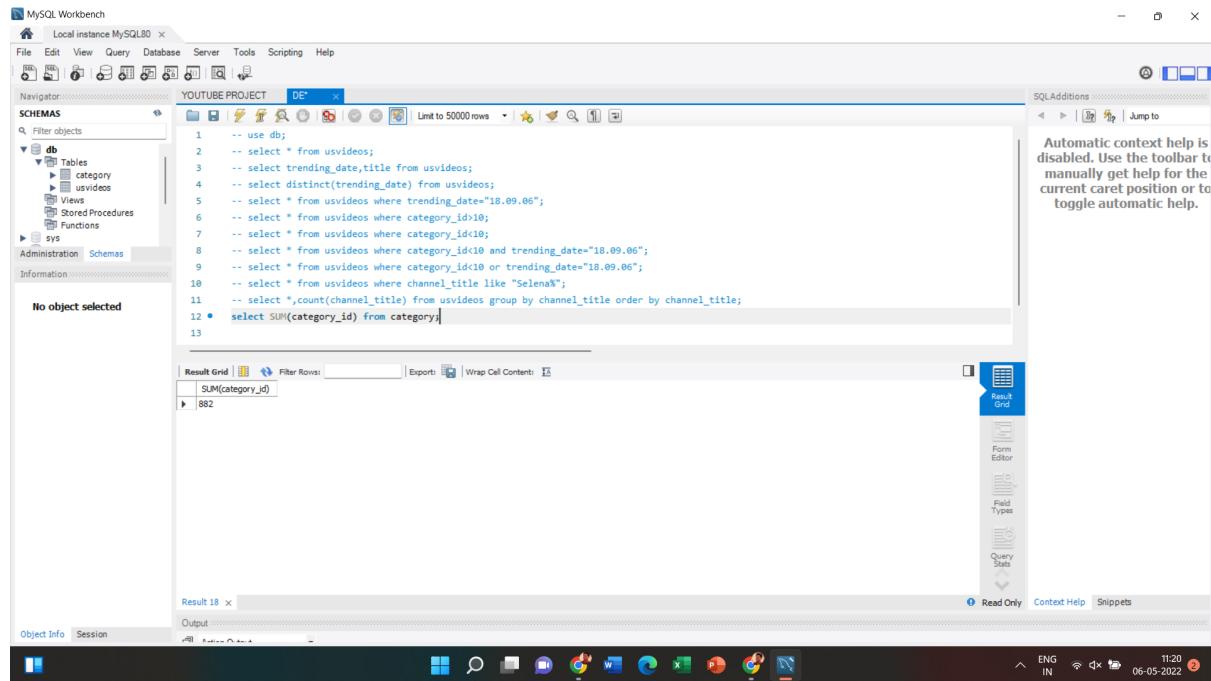


The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** Local instance MySQL80, db (selected), sys.
- Navigator:** Schemas, db (Tables: category, usvideos, Views, Stored Procedures, Functions).
- SQL Editor:** YOUTUBE PROJECT, DE*, contains the SQL query: `select count(category_id) from category;`.
- Result Grid:** Shows the result of the query: `count(category_id)` with value `32`.
- Toolbar:** Includes icons for Run, Stop, Refresh, Save, Copy, Paste, etc.
- Right Panel:** SQLAdditions, Read Only, Context Help, Snippets.
- System Tray:** Shows the date and time as 06-05-2022 11:19.

SUM

select SUM(category_id) from category;



The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** Local instance MySQL80, db (selected), sys.
- Navigator:** Schemas, db (Tables: category, usvideos, Views, Stored Procedures, Functions).
- SQL Editor:** YOUTUBE PROJECT, DE*, contains the SQL query: `select SUM(category_id) from category;`.
- Result Grid:** Shows the result of the query: `SUM(category_id)` with value `862`.
- Toolbar:** Includes icons for Run, Stop, Refresh, Save, Copy, Paste, etc.
- Right Panel:** SQLAdditions, Read Only, Context Help, Snippets.
- System Tray:** Shows the date and time as 06-05-2022 11:20.

MIN

select MIN(category_id) from category;

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Standard database management icons.
- Navigator:** Shows the schema structure under 'db' (Tables: Category, Subvideos, Views, Stored Procedures, Functions).
- SQL Editor:** A large text area containing the following SQL code:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id=10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

Line 12: **select MIN(category_id) from category;**
- Result Grid:** A table showing the result of the query: MIN(category_id) with value 1.
- Right Panel:** 'SQLAdditions' panel with a note: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Bottom Status:** Object Info, Session, Read Only, Context Help, Snippets, ENG IN, 06-05-2022, 11:20.

MAX

select MAX(category_id) from category;

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Standard database management icons.
- Navigator:** Shows the schema structure under 'db' (Tables: Category, Subvideos, Views, Stored Procedures, Functions).
- SQL Editor:** A large text area containing the following SQL code:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id=10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

Line 12: **select MAX(category_id) from category;**
- Result Grid:** A table showing the result of the query: MAX(category_id) with value 44.
- Right Panel:** 'SQLAdditions' panel with a note: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Bottom Status:** Object Info, Session, Read Only, Context Help, Snippets, ENG IN, 06-05-2022, 11:20.

AVERAGE

```
select AVG(category_id) from category;
```

The screenshot shows the MySQL Workbench interface with a query editor window titled 'DE'. The code entered is:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id<10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "%Selena%";
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • select AVG(category_id) from category;
13
```

The result grid shows one row with the value 27.5625.

CASE CONDITION

The screenshot shows the MySQL Workbench interface with a query editor window titled 'DE'. The code entered is:

```
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id<10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "%Selena%";
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • select category_id,case when category_id<100
13 then "abc"
14 when category_id<100
15 then "xyz"
16 else "nothing"
17 end as "fegljdk"
18 from category;
19
```

The result grid shows the following data:

category_id	fegljdk
1	abc
2	abc
10	abc
15	abc
17	abc
18	abc
19	abc
20	abc
21	abc
22	abc
23	abc
24	abc
25	abc
26	abc
27	abc

SUBQUERY

select * from category a where 2=(select count(distinct category_id) from category b where a.category_id>b.category_id);

The screenshot shows the MySQL Workbench interface with a query editor window titled 'YOUTUBE PROJECT'. The code entered is:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date='18.09.06';
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date='18.09.06';
-- select * from usvideos where category_id<10 or trending_date='18.09.06';
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • select * from category a where 2=(select count(distinct category_id) from category b where a.category_id>b.category_id);
13
```

The result grid shows one row:

category_id	category
10	Music

LENGTH FUNCTION

SELECT LENGTH(category) from category;

The screenshot shows the MySQL Workbench interface with a query editor window titled 'YOUTUBE PROJECT'. The code entered is:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date='18.09.06';
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date='18.09.06';
-- select * from usvideos where category_id<10 or trending_date='18.09.06';
-- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 • SELECT LENGTH(category) from category;
13
```

The result grid shows the length of the category names:

LENGTH(category)
16
16
5
14
6
12
15
6
13
14
6
13
15
13
13
13
a

UPPER

SELECT UPPER(category) from category;

The screenshot shows the MySQL Workbench interface with a query editor window titled "DE". The query is:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

The result grid shows the output of the query:

UPPER(category)
FILM & ANIMATION
AUTOS & VEHICLES
MUSIC
PETS & ANIMALS
SPORTS
SHORT MOVIES
TRAVEL & EVENTS
GAMING
VIDEOBLOGGING
PEOPLE & BLOGS
COMEDY
ENTERTAINMENT
NEWS & POLITICS
HOWTO & STYLE
EDUCATION

LOWER

SELECT LOWER(category) from category;

The screenshot shows the MySQL Workbench interface with a query editor window titled "DE". The query is:

```
-- use db;
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

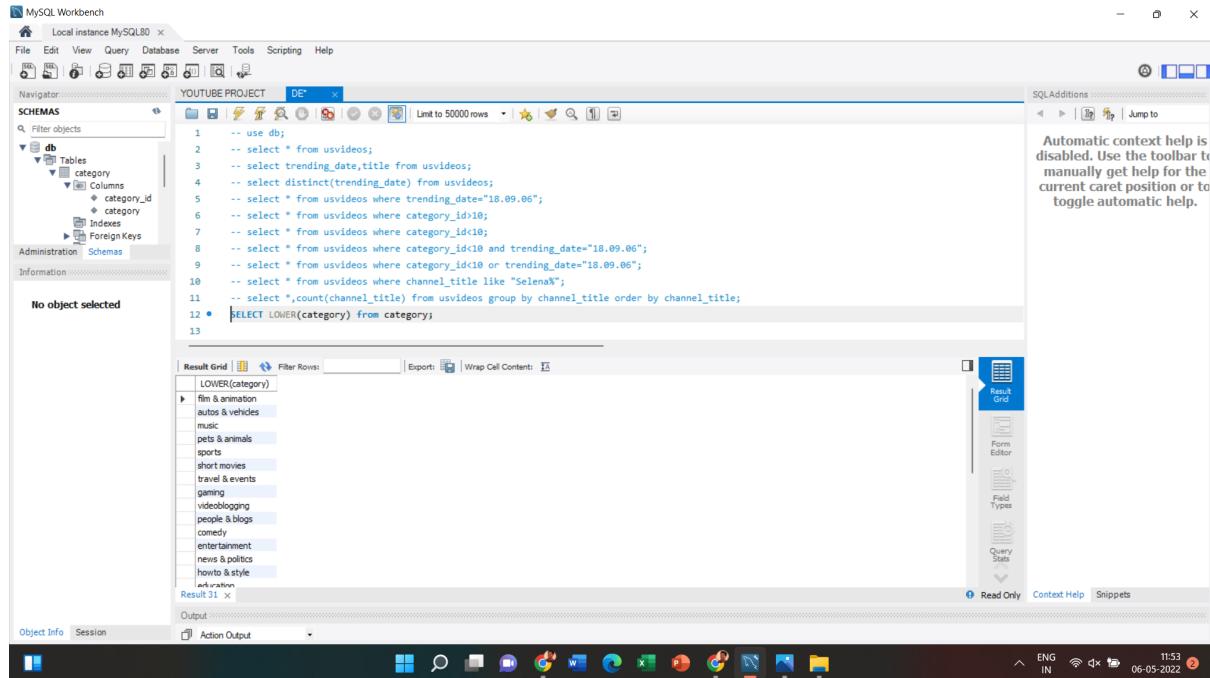
The result grid shows the output of the query:

LOWER(category)
film & animation
autos & vehicles
music
pets & animals
sports
short movies
travel & events
gaming
videoblogging
people & blogs
comedy
entertainment
news & politics
howto & style
education

RENAME

alter table category
rename column category to gather;

select * from category;



The screenshot shows the MySQL Workbench interface with the following details:

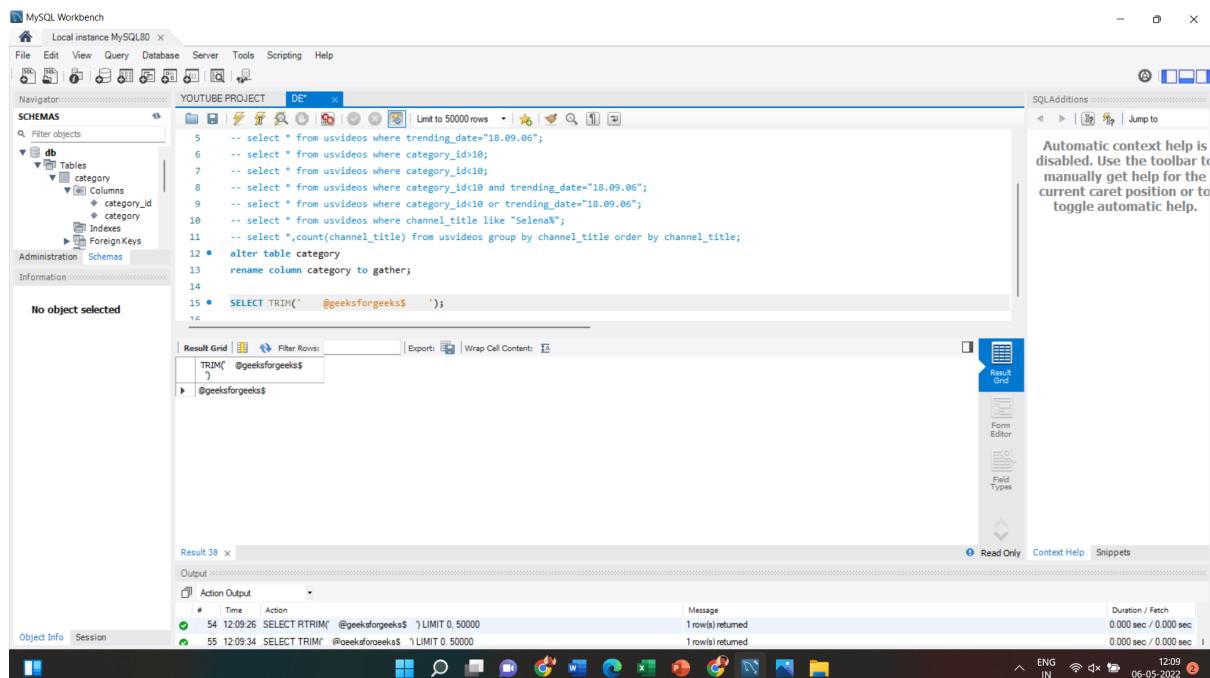
- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas, db, Tables, category, Columns, category_id, category, Indexes, Foreign Keys.
- SQL Editor:** The query is:

```
1 -- use db;
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date="18.09.06";
6 -- select * from usvideos where category_id<10;
7 -- select * from usvideos where category_id>10;
8 -- select * from usvideos where category_id<10 and trending_date="18.09.06";
9 -- select * from usvideos where category_id>10 or trending_date="18.09.06";
10 -- select * from usvideos where channel_title like "Selena%";
```

Line 12: **12 • SELECT LOWER(category) from category;**
- Result Grid:** Shows the results of the query, displaying various categories like film & animation, autos & vehicles, music, etc.
- Output:** Shows the execution log with the command: **12 06-05-2022 11:53 11:53**.

TRIM

SELECT TRIM(' @geeksforgeeks\$ '');



The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas, db, Tables, category, Columns, category_id, category, Indexes, Foreign Keys.
- SQL Editor:** The query is:

```
5 -- select * from usvideos where trending_date="18.09.06";
6 -- select * from usvideos where category_id<10;
7 -- select * from usvideos where category_id>10;
8 -- select * from usvideos where category_id<10 and trending_date="18.09.06";
9 -- select * from usvideos where category_id>10 or trending_date="18.09.06";
10 -- select * from usvideos where channel_title like "Selena%";
```

Line 11: **-- select ",count(channel_title) from usvideos group by channel_title order by channel_title;**

Line 12: **12 • alter table category**

Line 13: **13 rename column category to gather;**

Line 15: **15 • SELECT TRIM(' @geeksforgeeks\$ ');**
- Result Grid:** Shows the results of the query, displaying the output: **TRIM(' @geeksforgeeks\$ ')** and **@geeksforgeeks\$**.
- Action Output:** Shows the execution log with the command: **54 12:09:26 SELECT RTRIM(' @geeksforgeeks\$ ') LIMIT 0,50000** and **55 12:09:34 SELECT TRIM(' @geeksforgeeks\$ ') LIMIT 0,50000**.
- Output:** Shows the execution log with the command: **54 12:09:26 SELECT RTRIM(' @geeksforgeeks\$ ') LIMIT 0,50000** and **55 12:09:34 SELECT TRIM(' @geeksforgeeks\$ ') LIMIT 0,50000**.

LTRIM

```
SELECT LTRIM(' @geeksforgeeks$ ');
```

The screenshot shows the MySQL Workbench interface with a database named 'YOUTUBE PROJECT'. In the SQL editor, the following query is run:

```
SELECT LTRIM(' @geeksforgeeks$ ');
```

The result grid shows the output:

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
LTRIM(' @geeksforgeeks\$ ') @geeksforgeeks\$			

The status bar at the bottom right indicates the session details: ENG IN 12:09 06-05-2022.

RTRIM

```
SELECT RTRIM(' @geeksforgeeks$ ');
```

The screenshot shows the MySQL Workbench interface with a database named 'YOUTUBE PROJECT'. In the SQL editor, the following query is run:

```
SELECT RTRIM(' @geeksforgeeks$ ');
```

The result grid shows the output:

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
rTRIM(' @geeksforgeeks\$ ') @geeksforgeeks\$			

The status bar at the bottom right indicates the session details: ENG IN 12:13 06-05-2022.

CONCATENATION

```
SELECT CONCAT('SQL', '', 'is', '', 'fun!');
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the database schema with a table named "category".
- SQL Editor:** Displays the SQL query:

```
5  -- select * from usvideos where trending_date='18.09.06';
6  -- select * from usvideos where category_id=10;
7  -- select * from usvideos where category_id<10;
8  -- select * from usvideos where category_id<10 and trending_date='18.09.06';
9  -- select * from usvideos where category_id>10 or trending_date='18.09.06';
10 -- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
11 -- select 'gather',count(channel_title) from usvideos group by channel_title order by channel_title;
12 • alter table category
13   rename column category to gather;
14
15 • SELECT CONCAT('SQL', '', 'is', '', 'fun!');
```
- Result Grid:** Shows the result of the query:

CONCAT('SQL', '', 'is', '', 'fun!')
SQL is fun!
- Output:** Shows the log output for the session:

```
Action Output
# Time Action
58 12:13:11 SELECT+TRIM(`@geekforgeeks$` ) LIMIT 0,50000
      Message 1row(s) returned
      Duration / Fetch 0.000 sec / 0.000 sec
59 12:17:03 SELECT+CONCAT('SQL', '', 'is', '', 'fun!') LIMIT 0,50000
      Message 1row(s) returned
      Duration / Fetch 0.016 sec / 0.000 sec
```

SUBSTRING

```
SELECT SUBSTRING(gather, 1,3) AS ExtractString
FROM category;
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the database schema with a table named "category".
- SQL Editor:** Displays the SQL query:

```
4  -- select distinct(trending_date) from usvideos;
5  -- select * from usvideos where trending_date='18.09.06';
6  -- select * from usvideos where category_id=10;
7  -- select * from usvideos where category_id<10;
8  -- select * from usvideos where category_id<10 and trending_date='18.09.06';
9  -- select * from usvideos where category_id>10 or trending_date='18.09.06';
10 -- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
11 -- select 'gather',count(channel_title) from usvideos group by channel_title order by channel_title;
12 • SELECT SUBSTRING(gather, 1,3) AS ExtractString
13   FROM category;
14
15
```
- Result Grid:** Shows the result of the query:

ExtractString
Fil
Aut
Mus
Pet
Spo
Sho
Tra
Gam
Vid
Peo
Com
Ent
New
How
Edu
Sci
- Output:** Shows the log output for the session.

CEIL

```
select ceil(1.9);
```

The screenshot shows the MySQL Workbench interface with a query editor window titled "YOUTUBE PROJECT". The query is:

```
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date='18.09.06';
6 -- select * from usvideos where category_id<10;
7 -- select * from usvideos where category_id>10;
8 -- select * from usvideos where category_id<10 and trending_date='18.09.06';
9 -- select * from usvideos where category_id>10 or trending_date='18.09.06';
10 -- select * from usvideos where channel_title like 'Selena%';
11 -- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 -- select * from category;
13 • select ceil(1.9);
```

The result grid shows one row with the value 2.

FLOOR

```
select floor(1.9);
```

The screenshot shows the MySQL Workbench interface with a query editor window titled "YOUTUBE PROJECT". The query is:

```
2 -- select * from usvideos;
3 -- select trending_date,title from usvideos;
4 -- select distinct(trending_date) from usvideos;
5 -- select * from usvideos where trending_date='18.09.06';
6 -- select * from usvideos where category_id<10;
7 -- select * from usvideos where category_id>10;
8 -- select * from usvideos where category_id<10 and trending_date='18.09.06';
9 -- select * from usvideos where category_id>10 or trending_date='18.09.06';
10 -- select * from usvideos where channel_title like 'Selena%';
11 -- select *,count(channel_title) from usvideos group by channel_title order by channel_title;
12 -- select * from category;
13 • select floor(1.9);
```

The result grid shows one row with the value 1.

RANDOM

```
select rand();
```

The screenshot shows the MySQL Workbench interface with a query editor window titled "YOUTUBE PROJECT". The code entered is "select rand();". The result grid shows a single row with the value "0.9893160853455453". The status bar at the bottom right indicates the date and time as "06-05-2022 12:36".

```
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

Result Grid
rand()
0.9893160853455453

ROUND

```
select round(1.5699999999,3);
```

The screenshot shows the MySQL Workbench interface with a query editor window titled "YOUTUBE PROJECT". The code entered is "select round(1.5699999999,3)". The result grid shows a single row with the value "1.570". The status bar at the bottom right indicates the date and time as "06-05-2022 12:39".

```
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id>10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

Result Grid
round(1.5699999999,3)
1.570

POWER

```
select power(2,3);
```

The screenshot shows the MySQL Workbench interface. The query editor window contains the following SQL code:

```
-- select * from usvideos;
-- select trending_date,title from usvideos;
-- select distinct(trending_date) from usvideos;
-- select * from usvideos where trending_date="18.09.06";
-- select * from usvideos where category_id=10;
-- select * from usvideos where category_id<10;
-- select * from usvideos where category_id<10 and trending_date="18.09.06";
-- select * from usvideos where category_id>10 or trending_date="18.09.06";
-- select * from usvideos where channel_title like "Selena%";
```

The current line of code being executed is:

```
13 • select power(2,3);
```

The result grid shows the output of the query:

power(2,3)
8

The status bar at the bottom right indicates the session is "Read Only".