

WHERE

✓ Used to FILTER the data in the output

✓ Always after FROM



SELECT
column_name1,
column_name2
FROM table_name
WHERE condition



SELECT

*

FROM payment

WHERE amount = 10.99

Data C	Output Exp	lain Messa	ges Not			
4	payment_id integer	customer_id smallint	staff_id_s.	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone
1	16073	276	1	860	10.99	2020-01-30 02:13:42.996577+01
2	16125	304	1	135	10.99	2020-01-25 21:27:24.996577+01
3	16358	433	1	691	10.99	2020-01-29 00:29:52.996577+01



```
SELECT
first_name,
last_name
FROM customer
WHERE first_name = 'ADAM'
```

Notifications

Data Output		Explain M	lessages
4	first_name text	last_name text	
1	ADAM	GOOCH	



```
SELECT
first_name,
last_name
FROM customer
WHERE first_name = 'ADAM'
```

Notifications

Data Output		Explain M	lessages
4	first_name text	last_name text	
1	ADAM	GOOCH	

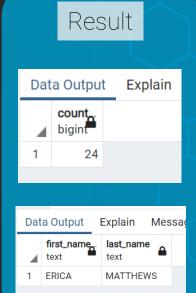


Challenge

How many payment were made by the customer with customer_id = 100?

What is the last name of our customer with first name 'ERICA'?

Write a SQL query to get the answers





SELECT

*

FROM payment

WHERE amount > 10.99

Data	Data Output Explain Messages Notifications										
4	payment_id integer	customer_id smallint	staff_id_s.	rental_id_integer	amount numeric (5,2)	payment_date timestamp with time zone					
1	17055	196	2	106	11.99	2020-01-25 17:46:45.996577+01					
2	17354	305	1	2166	11.99	2020-02-17 23:19:47.996577+01					
3	20403	362	1	14759	11.99	2020-03-21 22:57:24.996577+01					



SELECT

*

FROM payment

WHERE amount < 10.99

Data Out	put Explai	n Messages	s Notific	cations			
4	payment_id integer	customer_id smallint	staff_id smallint	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone	
1	16050	269	2	7	1.99	2020-01-24 22:40:19.996577+01	
2	16051	269	1	98	0.99	2020-01-25 16:16:50.996577+01	
3	16052	269	2	678	6.99	2020-01-28 22:44:14.996577+01	



SELECT

*

FROM payment

WHERE amount < 10.99

Data Out	Data Output Explain Messages Notifications											
4	payment_id integer	customer_id smallint	staff_id smallint	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone						
1	22124	542	2	14982	9.99	2020-03-22 06:49:21.996577+01						
2	22127	543	2	11241	9.99	2020-03-02 12:57:50.996577+01						
3	29567	51	1	3525	9.99	2020-04-06 00:31:05.996577+02						



SELECT

*

FROM payment

WHERE amount <= 10.99

Data Output Explain Messages Notifications										
4	payment_id integer	customer_id smallint	staff_id_s.	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone				
1	23952	136	2	11992	10.99	2020-03-17 17:55:48.996577+01				
2	31310	212	2	4708	10.99	2020-04-08 11:27:45.996577+02				
3	20817	404	2	15290	10.99	2020-03-22 18:56:28.996577+01				



SELECT

*

FROM payment

WHERE amount >= 10.99

Data (Output Exp	lain Messa	ges Not			
4	payment_id integer	customer_id	staff_id_s.	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone
1	20403	362	1	14759	11.99	2020-03-21 22:57:24.996577+01
2	24866	237	2	11479	11.99	2020-03-02 21:46:39.996577+01
3	17055	196	2	106	11.99	2020-01-25 17:46:45.996577+01



SELECT

*

FROM payment

WHERE amount != 10.99

Data Out	Data Output Explain Messages Notifications										
4	payment_id integer	customer_id_s.	staff_id_s.	rental_id_integer	amount numeric (5,2)	payment_date timestamp with time zone					
1	16050	269	2	7	1.99	2020-01-24 22:40:19.996577+01					
2	16051	269	1	98	0.99	2020-01-25 16:16:50.996577+01					
3	16052	269	2	678	6.99	2020-01-28 22:44:14.996577+01					



SELECT

*

FROM payment

WHERE amount <> 10.99

Data Out	Data Output Explain Messages Notifications										
4	payment_id integer	customer_id_s.	staff_id_s.	rental_id_integer	amount numeric (5,2)	payment_date timestamp with time zone					
1	16050	269	2	7	1.99	2020-01-24 22:40:19.996577+01					
2	16051	269	1	98	0.99	2020-01-25 16:16:50.996577+01					
3	16052	269	2	678	6.99	2020-01-28 22:44:14.996577+01					



SELECT

*

FROM payment

WHERE amount <= 10.99





SELECT
first_name,
last_name
FROM customer
WHERE first_name is null

Side note! SYNTAX Case sensitive or not? SELECT first_name, last_name FROM customer WHERE first_name is not null

SYNTAX

Explain

text

GOOCH

last_namen.

Data Output

text

ADAM

first_namen.

select
first_name,
last_name
FROM customer
WHERE first_name = 'ADAM'

Messages

Notifications

SYNTAX

seLEcT
first_name,
last_name
FROM customer
WHERE first_name = 'ADAM'
Data Output Explain Messages Notifications

4	first_name text	last_name text
1	ADAM	GOOCH

SYNTAX

Explain

text

GOOCH

last_namen.

Data Output

text

ADAM

first_namen.

select
FIRst_nAme,
last_name
FROM customer
WHERE first_name = 'ADAM'

Messages

Notifications

SYNTAX

Explain

text

GOOCH

last_namen.

Data Output

text

ADAM

first_namen.

```
select
"first_name",
last_name
FROM customer
WHERE first_name = 'ADAM'
```

Messages Notifications



```
select
"First_name",
last_name
FROM customer
WHERE first_name = 'ADAM'
```

ERROR: column "First_name" does not exist
LINE 3: "First name".

Data Output Explain Messages Notifications

LINE 3: "First_name",

HINT: Perhaps you meant to reference the column "customer.first_name".

SQL state: 42703 Character: 10

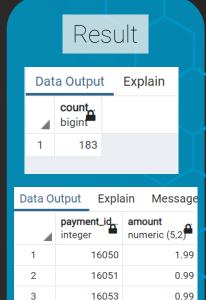


Challenge

The inventory manager asks you how rentals have not been returned yet (return_date is null).

The sales manager asks you how for a list of all the payment_ids with an amount less than or equal to \$2. Include payment_id and the amount.

Write a SQL query to get the answers!



16053 16056

16059

1.99

0.99



AND / OR

Used to connect two conditions





SELECT column_name1, column_name2 FROM table_name WHERE condition1 AND condition2 AND condition3

Note!

ALL conditions must be true!

SELECT

*

FROM payment

WHERE amount = 10.99

AND customer_id = 426

Dat	Data Output Explain Messages Notifications								
4	payment_id integer	customer_id_smallint	staff_id smallint	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone			
1	26978	426	1	7527	10.99	2020-04-27 20:42:54.996577+02			
2	26983	426	2	10172	10.99	2020-04-30 22:58:17.996577+02			



SELECT

*

FROM payment

WHERE amount = 10.99

OR amount = 9.99

Data Output Ex	xplain Mess	ages Notifications
----------------	-------------	--------------------

•	payment_id integer	customer_id_smallint	staff_idsmallint	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone
1	16073	276	1	860	10.99	2020-01-30 02:13:42.996577+01
2	16125	304	1	135	10.99	2020-01-25 21:27:24.996577+01
3	16160	318	1	224	9.99	2020-01-26 09:46:53.996577+01

SYNTAX SELECT * FROM payment WHERE amount = 10.99 OR 9.99 Data Output Explain Messages Notifications ERROR: argument of OR must be type boolean, not type numeric LINE 6: OR 9.99 SQL state: 42804 Character: 53



SELECT

*

FROM payment

WHERE amount = 10.99

OR amount = 9.99

AND customer_id = 426

Data Output Explain Messages Notifications									
•	payment_id integer	customer_id smallint	staff_id	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone			
1	16073	276	1	860	10.99	2020-01-30 02:13:42.996577+01			
2	16125	304	1	135	10.99	2020-01-25 21:27:24.996577+01			
3	16358	433	1	691	10 99	2020-01-29 00:29:52 996577+01			



SELECT

 \star

FROM payment

WHERE amount = 10.99

OR (amount = 9.99)

AND customer_id = 426)

Data Output Explain Messages Notifications

4	payment_id integer	customer_idsmallint	staff_id_s.	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone	<u></u>
1	16073	276	1	860	10.99	2020-01-30 02:13:42.996577+01	
2	16125	304	1	135	10.99	2020-01-25 21:27:24.996577+01	
3	16358	433	1	691	10.99	2020-01-29 00:29:52.996577+01	



SELECT

 \star

FROM payment

WHERE (amount = 10.99

OR amount = 9.99)

AND customer_id = 426

Dat	Data Output Explain Messages Notifications									
4	payment_id integer	customer_id smallint	staff_id	rental_id. integer	amount numeric (5,2)	payment_date timestamp with time zone				
1	26978	426	1	7527	10.99	2020-04-27 20:42:54.996577+02				
2	26983	426	2	10172	10.99	2020-04-30 22:58:17.996577+02				



Explain

text

GOOCH

last_namen.

Data Output

text

ADAM

first_namen.

```
SELECT
first_name,
last_name
FROM customer
WHERE first_name = 'ADAM'
```

Messages

Notifications



Challenge

The supposity manager asks you about a list of all the payment of the customer 322, 346 and 354 where the amount is either less than \$2 or greater than \$10.

It should be ordered by the customer first (ascending) and then as second condition order by amount in a descending order.

Write a SQL query to get the answers!

	Data Output Explain Messages Notifications						
Result	4	payment_id integer	customer_id smallint	staff_id	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone
	1	25784	322	2	3627	1.99	2020-04-06 05:47:51.996577+02
	2	25794	322	1	9252	1.99	2020-04-30 13:48:25.996577+02
	3	16167	322	2	166	0.99	2020-01-26 02:17:37.996577+01



BETWEEN ... AND ...

✓ Used to filter a range of values







payment_id, amount

FROM payment

WHERE amount NOT BETWEEN 1.99 AND 6.99

Data Output		Expla	ain M	1essage	S
4	payme integer	nt_id	amoun numeri	it ic (5,2)	
1		16051		0.99	
2		16053		0.99	
3		16058		8.99	
4		16059		0.99	



SYNTAX SELECT payment_id, amount FROM payment WHERE amount BETWEEN '2020-01-24' AND '2020-01-26' Notifications Data Output Explain Messages payment_id_. payment_date integer timestamp with time zone 16050 2020-01-24 22:40:19.996577+01 2020-01-25 16:16:50.996577+01 2 16059 2020-01-25 03:47:17.996577+01 3 16063 2020-01-25 19:14:47.996577+01 4





SELECT

payment_id,
amount
FROM payment

WHERE amount BETWEEN '2020-01-24 0:00' AND '2020-01-26 0:00'



Data (Output Exp	lain Messages Notifications
4	payment_id integer	payment_date timestamp with time zone
1	16050	2020-01-24 22:40:19.996577+01
2	16051	2020-01-25 16:16:50.996577+01
3	16059	2020-01-25 03:47:17.996577+01
4	16063	2020-01-25 19:14:47.996577+01







SELECT

payment_id,
amount
FROM payment

WHERE amount BETWEEN '2020-01-24 0:00' AND '2020-01-26 12:00'



Data (Output Exp	lain Messages Notifications
4	payment_id integer	payment_date timestamp with time zone
1	16050	2020-01-24 22:40:19.996577+01
2	16051	2020-01-25 16:16:50.996577+01
3	16059	2020-01-25 03:47:17.996577+01
4	16063	2020-01-25 19:14:47.996577+01





Challenge

There have been 6 complaints of customers about their payments.

customer_id: 12,25,67,93,124,234

The concerned payments are all the payments of these customers with amounts 4.99, 7.99 and 9.99 in January 2020.

Write a SQL query to get a list of the concerned payments!

Result

It should be 7 payments!



Challenge

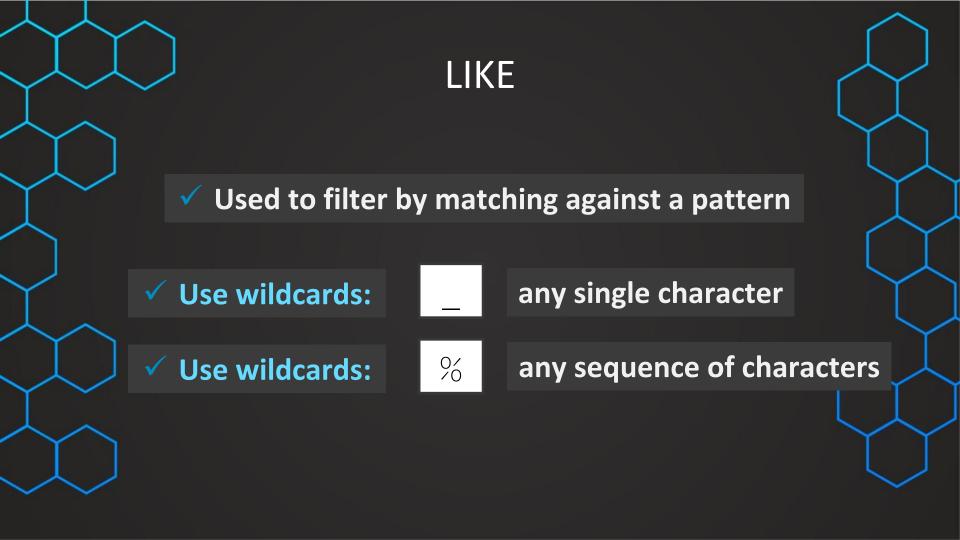
There have been some faulty payments and you need to help to found out how many payments have been affected.

How many payments have been made on January 26th and 27th 2020 (including entire 27th) with an amount between 1.99 and 3.99?

Write a SQL query to get the answers!

Result

Dat	a Output	Explain
4	count bigint	
1	45	



SELECT

*

FROM actor

WHERE first_name LIKE 'A%'

Data Output Explain Messages Notifications

4	actor_id [PK] integer	first_name text	last_name text	last_update timestamp with time zone
1	29	ALEC	WAYNE	2020-02-15 10:34:33+01
2	34	AUDREY	OLIVIER	2020-02-15 10:34:33+01
3	49	ANNE	CRONYN	2020-02-15 10:34:33+01

Note!

<u>It's</u> case-sensitive



SELECT first_name FROM actor WHERE first_name LIKE 'a%'

Messages

first_name last_name text last_update timestamp w

Data Output

actor_id [PK] integer

Explain

Notifications

timestamp with time zone

Note!

It's case-sensitive



SELECT
first_name
FROM actor
WHERE first_name ILIKE 'a%'

Notifications

last_update

timestamp with time zone

2020-02-15 10:34:33+01

2020-02-15 10:34:33+01

2020-02-15 10:34:33+01

Data Output

actor_id

[PK] integer

Explain

29 ALEC

34 AUDREY

49 ANNE

first_name

Messages

last_name

text

WAYNE

OLIVIER

CRONYN

Note!

ILIKE is case-INsensitive

SELECT

*

FROM actor

WHERE first_name LIKE 'A%'

Data Output Explain Messages Notifications

1	actor_id [PK] integer	first_name text	last_name text	last_update timestamp with time zone
1	29	ALEC	WAYNE	2020-02-15 10:34:33+01
2	34	AUDREY	OLIVIER	2020-02-15 10:34:33+01
3	49	ANNE	CRONYN	2020-02-15 10:34:33+01

Note!

It's case-sensitive

SELECT

*

FROM actor

WHERE first_name LIKE '%A%'

Data Output Explain Messages Notifications

•	actor_id [PK] integer	first_name rext	last_name text	last_update timestamp with time zone
1	7	GRACE	MOSTEL	2020-02-15 10:34:33+01
2	8	MATTHEW	JOHANSSON	2020-02-15 10:34:33+01
3	10	CHRISTIAN	GABLE	2020-02-15 10:34:33+01



SELECT

*

FROM actor

WHERE first_name LIKE '_A%'

Data	Data Output Explain Messages Notifications						
4	actor_id [PK] integer	first_name text	last_name text	last_update timestamp with time zone			
1	8	MATTHEW	JOHANSSON	2020-02-15 10:34:33+01			
2	12	KARL	BERRY	2020-02-15 10:34:33+01			
3	18	DAN	TORN	2020-02-15 10:34:33+01			
4	23	SANDRA	KILMER	2020-02-15 10:34:33+01			



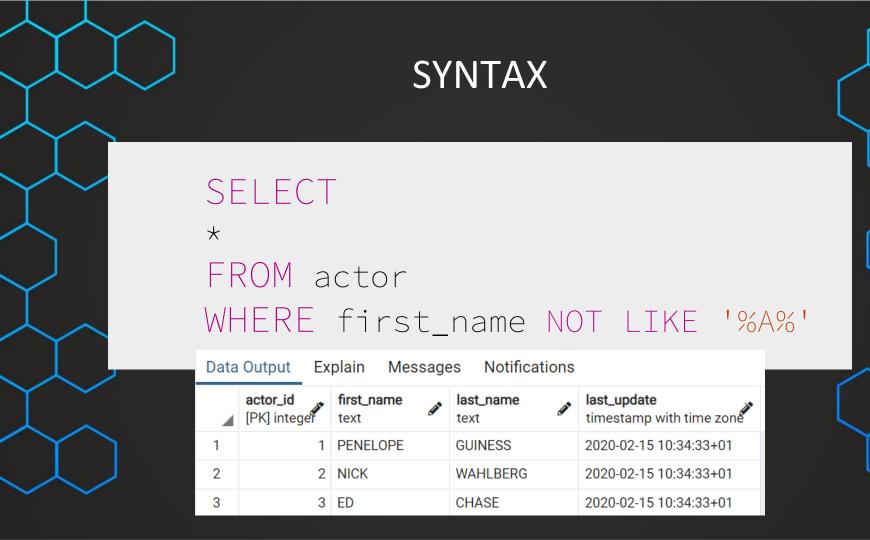
SELECT

*

FROM actor

WHERE first_name LIKE '__A%'

Data	ications				
4	actor_id [PK] intege	er e	first_name text	last_name text	last_update timestamp with time zone
1		7	GRACE	MOSTEL	2020-02-15 10:34:33+01
2		13	UMA	WOOD	2020-02-15 10:34:33+01
3		48	FRANCES	DAY-LEWIS	2020-02-15 10:34:33+01



SELECT

*

FROM payment

WHERE amount = 10.99

AND customer_id = 426

Dat	Data Output Explain Messages Notifications							
4	payment_id integer	customer_id_smallint	staff_id smallint	rental_id integer	amount numeric (5,2)	payment_date timestamp with time zone		
1	26978	426	1	7527	10.99	2020-04-27 20:42:54.996577+02		
2	26983	426	2	10172	10.99	2020-04-30 22:58:17.996577+02		



Challenge

You need to help the inventory manager to find out:

How many movies are there that contain the "Documentary" in the description?

Write a SQL query to get the answers!

Result

Data Output

count
bigint

1 101

Challenge

How many customers are there with a first name that is 3 letters long and either an 'X' or a 'Y' as the last letter in the last name?

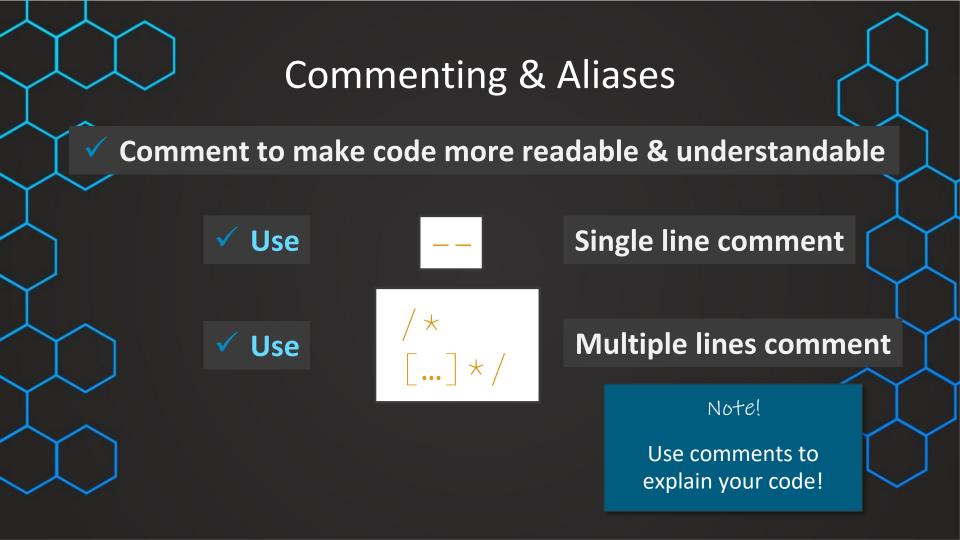
Write a SQL query to get the answers!

Result

Data Output Exp

count
bigint

1 3



SYNTAX -- 2020/07/01 by Nikolai -- Query that filters amount SELECT FROM payment WHERE amount = 10.99

Note!

Comments will not be processed as code!

SYNTAX

```
/* 2020/07/01 by Nikolai
Query to filter by amount*/
```

```
SELECT
```

*

FROM payment

WHERE amount = 10.99



SELECT

*
FROM payment
WHERE amount = 10.99
--AND customer_id = 426

SELECT

*

FROM payment

- --WHERE amount = 10.99
- --AND customer_id = 426



SELECT

*
FROM payment
/*WHERE amount = 10.99
AND customer_id = 426*/



SELECT

payment_id AS invoice_no

FROM payment

Data Out	tput Expla	in Messages
4	invoice_no integer	amount numeric (5,2)
1	16050	1.99
2	16051	0.99
3	16052	6.99



SELECT COUNT(*) FROM payment WHERE amount = 10.99 AND customer_id = 426



Challenge for today

- How many movies are there that contain 'Saga' in the description and where the title starts either with 'A' or ends with 'R'?
 Use the alias 'no_of_movies'.
- Create a list of all customers where the first name contains 'ER' and has an 'A' as the second letter.
 Order the results by the last name descendingly.
- 3. How many payments are there where the amount is either 0 or is between 3.99 and 7.99 and in the same time has happened on 2020-05-01.

Results

Result 1

Data Output Explain

number_of_movie_bigint

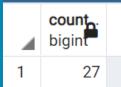
1 14

Result 2

Data Output Explain Messages Notifications						
4	customer_id [PK] integer	store_id_ smallint	first_name text	last_name text	email text	
1	61	2	KATHERINE	RIVERA	KATHE	
2	339	2	WALTER	PERRYMAN	WALTE	
3	535	1	JAVIER	ELROD	JAVIER	
4	46	2	CATHERINE	CAMPBELL	CATHE	
5	149	1	VALERIE	BLACK	VALERI	

Result 3

Data Output



How many movies are there that contain 'Saga' in the description and where the title starts either with 'A' or ends with 'R'?

Use the alias 'no_of_movies'.

SELECT
COUNT(*) AS number_of_movie
FROM film
WHERE description LIKE '%Saga%'
AND (title LIKE 'A%'
OR title LIKE '%R')

2. Create a list of all customers where the first name contains 'ER' and has an 'A' as the second letter.

Order the results by the last name descendingly.

SELECT

 \star

FROM customer
WHERE first_name LIKE '%ER%'
AND first_name LIKE '_A%'
ORDER BY last_name DESC

3. How many payments are there where the amount is either 0 or between 3.99 and 7.99 and in the same time have happened on 2020-05-01.

```
SELECT
COUNT(*)
FROM payment
WHERE (amount = 0
OR amount BETWEEN 3.99 AND 7.99)
AND payment_date BETWEEN '2020-05-01' AND '2020-05-02'
```

4. How many distinct last names of the customers are there?

SELECT
COUNT(DISTINCT last_name)
FROM customer