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DATA ANALYSIS

# DATA

# ANALYSIS

## SQL





# OBJECTIVE



The objective of the project is to use MySQL to analyze the data of the movie rental store for further growth and improved business.





# SAKILA MOVIE RENTAL STORE DATA



The Motion Picture Association (MPA) is a movie rating system that rates the suitability of motion pictures for audiences based on its content. The United States and its territories also use MPA to rate motion pictures. The system and the ratings applied to individual motion pictures are the responsibility of MPA.

Sakila is a movie rental store with a vast collection of movies in DVDs and blue ray disc formats. The management wants to analyze the data to understand what kind of movies and actors are often rented. This analysis would help them stock up the inventory of movies to improve their business. This analysis involves a set of tasks to begin with. As an analyst, you are expected to answer the questions put forth by the management





## TASK 1

Display the full names of all actors.

### METHODS

concat function is used.

### OUTPUT

Name of actors
NICK WAHLBERG
ED CHASE
JENNIFER DAVIS
JOHNNY LOLLOBRIGIDA
BETTE NICHOLSON
GRACE MOSTEL
MATTHEW JOHANSSON
JOE SWANK
CHRISTIAN GABLE
ZERO CAGE
KARL BERRY
UMA WOOD
WINTER BEECH

### CONCLUSION

From the data, I joined the first name and last name as full name by concatenating it.





## TASK 2

Many actors have adopted attractive screen names , mostly at the behest of producers and directors. The management wants to know the following:

- Display the first names of actors in database.
- what is Count of actors have unique first names . Display the first names of all actors

### METHODS

a)Select count(\*)  
Grouped by  
Ordered by  
DESC is used,

b)Used select distinct(first  
name)

Found the count of it



### OUTPUT

first_name	Repeated_times
PENELOPE	4
JULIA	4
KENNETH	4
NICK	3
ED	3
MATTHEW	3
CHRISTIAN	3
CUBA	3
DAN	3
CAMERON	3
BURT	3
FAY	3

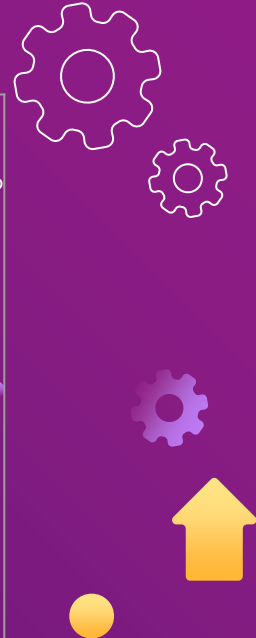
count( first_name)
200

first_name
PENELOPE
NICK
ED
JENNIFER
JOHNNY
BETTE
GRACE
MATTHEW
JOE
CHRISTIAN
ZERO
KARL
***

Result 10 x

### CONCLUSION

From the data, then I  
found the maximum  
count of repeated first  
names and found the  
unique first name and its  
count





## TASK 3

The management is interested to analyze the similarity in the last name of actors.

- Display the last name of actors along with the count of repeated last names.
- Display all unique last names in database

### METHODS

a) Select count(\*)  
Grouped by  
Ordered by  
DESC is used,

b) Used select distinct(first  
name)

Found the count of it



### OUTPUT

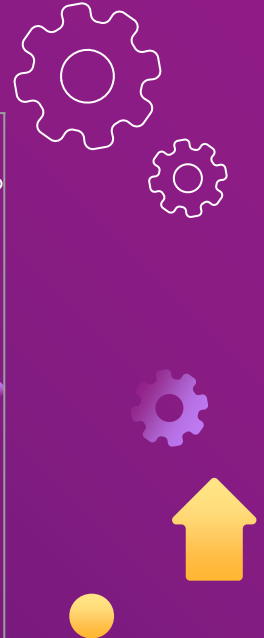
last_name	count_of_repeated
KILMER	5
NOLTE	4
TEMPLE	4
AKROYD	3
ALLEN	3
BERRY	3
DAVIS	3
DEGENERES	3
GARLAND	3
GUINNESS	3
HARRIS	3
HOFFMAN	3

count( last_name)
200

last_name
AKROYD
ALLEN
ASTAIRE
BACALL
BAILEY
BALE
BALL
BARRYMORE
BASINGER
BENING
BERGEN
BERGMAN

### CONCLUSION

From the data, then I  
found the maximum  
count of repeated last  
names and found unique  
last names and its  
count.





## TASK 4

The Management Wants to analyze the Movies based on rating

- Display the list of records of movies with Rating "R".
- Display the list of records of movies with Rating not "R".
- Display the list of records of movies suitable for audience above 13.

### METHODS

For all 3 I used Select \*  
to fetch records

In where clause I  
specified the conditions  
for all.



### OUTPUT

film_id	title	description	release_year	language
16	ASPHALT POLLOCK	A Epic Tale of a Heese And a Girl who must Con...	2006	I
17	ALONE TROP	A Fast-Paced Character Study of a Composer A...	2006	I
20	AMELIE HELLFIGHTERS	A Boring Drama of a Woman And a Squared who...	2006	I
21	AMERICAN CIRCUS	A Inghrid Drama of a Girl And a Astronaut wh...	2006	I
23	AWAKENING CONFESSIONS	A Lullabian Display of a Dentist And a Dentist...	2006	I
24	ANALYZE HOOBERS	A Thoughtful Display of a Explorer And a Pastry...	2006	I
30	ANYTHING SAVANNAH	A Epic Story of a Pastry Chef And a Woman wh...	2006	I
32	APOLLOPIRE FLUMBOGS	A Astounding Story of a Dog And a Squared who...	2006	I
40	JOHN FLOTTOSTONES	A Boring Saga of a Database Administrator And ...	2006	I
49	BACHMAN DAWN	A Emotional Panorama of a Pioneer And a Comp...	2006	I
54	BANGER PROCOED	A Awe-Inspiring Drama of a Car And a Pastry C...	2006	I

film_id	title	description	release_year
1	ACADEMY DINOSAUR	A Epic Drama of a Feminist And a Mad Scientist ...	2006
2	ACE GOLDFINGER	A Astounding Epistle of a Database Administrator...	2006
3	ADAPTATION HOLES	A Astounding Reflection of a Lumberjack And a ...	2006
4	AFRICA PRELUCE	A Fanciful Documentary of a Firebre And a Lum...	2006
5	AFRICAN EGG	A Fast-Paced Documentary of a Pastry Chef An...	2006
6	AGENT TRUMAN	A Intrepid Panorama of a Robot And a Boy who...	2006
7	AIRPLANE SIERRA	A Touching Saga of a Hunter And a Butler who ...	2006
9	ALABAMA DEVEL	A Thoughtful Panorama of a Database Administr...	2006
10	ALADDIN CALENDAR	A Action-Packed Tale of a Man And a Lumberjac...	2006
11	ALAMO VIDEOTAPE	A Boring Epistle of a Butler And a Cat who must...	2006
12	ALASKA PHANTOM	A Fanciful Saga of a Hunter And a Pastry Chef ...	2006

film_id	title	description
2	ACE GOLDFINGER	A Astounding Epistle of a Database Administrator...
4	AFRICA PRELUCE	A Fanciful Documentary of a Firebre And a Lum...
5	AFRICAN EGG	A Fast-Paced Documentary of a Pastry Chef An...
7	AIRPLANE SIERRA	A Touching Saga of a Hunter And a Butler who ...
9	ALABAMA DEVEL	A Thoughtful Panorama of a Database Administr...
11	ALAMO VIDEOTAPE	A Boring Epistle of a Butler And a Cat who must...
18	ALTER VICTORY	A Thoughtful Drama of a Composer And a Femi...
22	AMISTAD MIDSUMMER	A Emotional Character Study of a Dentist And a...
23	ANGELS LIFE	A Thoughtful Display of a Woman And a Actor...
26	ANNE IDENTITY	A Amazing Panorama of a Pastry Chef And a Bo...
28	ANTHEM LUKE	A Touching Panorama of a Waitress And a Wom...

### CONCLUSION

From the Data , I  
fetched the records for  
movies rated "R" and not  
rated "R" and I fetched  
data which movies is  
suitable for age group  
below 13 by ratings.



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## TASK 5

The management wants the data about replacement cost of movies. Replacement cost is the amount of money required to replace an existing asset (DVD/blue ray disc) with an equally valued or similar asset at the current market price.

- Display the movie titles where the replacement cost is up to \$11.
- Display the movie titles where replacement cost is between \$11 and \$20.
- Display the list of records of all movies in desc order of replacement costs

### METHODS

a)select

Where

b)select

Where between

c)Select

Order by desc

### OUTPUT

film_id	title	description	release_year	lang
15	ALLEN CENTER	A Brilliant Drama of a Cat And a Mad Scientist ...	2006	1
22	ANSTAD MIDSUMMER	A Emotional Character Study of a Dentist And a ...	2006	1
23	AWACEDIA CONFESSIONS	A Lullabying Display of a Dentist And a Dentist...	2006	1
39	AWAZEDON LOT	A Fast-Paced Tale of a Boat And a Teacher who...	2006	1
42	ARTIST COLOMBOD	A Stunning Reflection of a Robot And a Moose ...	2006	1
51	BALLROOM HONEYMOON	A Insightful Panorama of a Forensic Psychologi...	2006	1
79	BLAZE POLISH	A Thoughtful Character Study of a Fribee And ...	2006	1
105	CANDIDATE PRESTON	A Brilliant Epistle of a Composer And a Dabab...	2006	1
128	CATCH ANSTAD	A Boring Reflection of a Lumberjack And a Fem...	2006	1
150	CIDER DESIRE	A Stunning Character Study of a Composer And...	2006	1
167	CONA HEAD	A Awe-Dropping Drama of a Boy And a Fribee ...	2006	1

film_id	title	description	release_year	language
2	ACE GOLDFINGER	A Astounding Epistle of a Database Administrat...	2006	1
3	ADAPTATION HOLES	A Astounding Reflection of a Lumberjack And a ...	2006	1
6	AGENT TRUMAN	A Intrapid Panorama of a Robot And a Boy who...	2006	1
8	ASPORT POLLOCK	A Epic Tale of a Moose And a Girl who must Con...	2006	1
11	ALAND VIDEOTAPE	A Boring Epistle of a Butler And a Cat who must...	2006	1
17	ALONE TRIP	A Fast-Paced Character Study of a Composer A...	2006	1
21	AMERICAN CIRCUS	A Insightful Drama of a Girl And a Astronaut wh...	2006	1
24	ANALYZE HOOSIERS	A Thoughtful Display of a Explorer And a Pastry...	2006	1
25	ANGELS LIFE	A Thoughtful Display of a Woman And a Astron...	2006	1
26	ANNEE IDENTITY	A Amazing Panorama of a Pastry Chef And a Bo...	2006	1
27	ANONYMOUS HUMAN	A Amazing Reflection of a Database Administrat...	2006	1

film_id	title	description	release_year	language
34	ARABIA DOGMA	A Touching Epistle of a Madman And a Mad Cow...	2006	1
52	BALLROOM HOOKSBERG	A Thrilling Documentary of a Composer And a M...	2006	1
81	BULKINESS GUY	A Touching Drama of a Robot And a Teacher wh...	2006	1
85	BONNIE HOLOCAUST	A Fast-Paced Story of a Crocodile And a Robot ...	2006	1
138	CHARLOTS CONSPIRACY	A Unbelievable Epistle of a Robot And a Husba...	2006	1
157	CLOCKWORK PARADISE	A Insightful Documentary of a Technical Writer ...	2006	1
163	CLOYD THEORY	A Beautiful Yarn of a Astronaut And a Fribee ...	2006	1
196	CRUELTY UNFORGIVEN	A Brilliant Tale of a Car And a Moose who must ...	2006	1
199	CUPBOARD SINNERS	A Emotional Reflection of a Fribee And a Boat ...	2006	1
224	DESPERATE TRANSPORTING	A Epic Yarn of a Forensic Psychologist And a Te...	2006	1
232	DIRTY ACE	A Action-Packed Character Study of a Forensic ...	2006	1

### CONCLUSION

From the data the replacement cost  $\leq 11$  is found that no one is there. The replacement cost between 11 and 20 is found. And found list of records of all movies in desc order of replacement costs





## TASK 6

Display the top 3 movies with Greatest number of Actors

### METHODS

#### SELECT

Joined two tables(film and film actor)

Group by film id

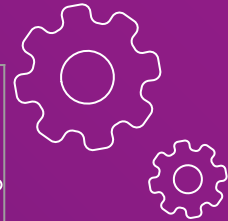
Order by desc

### OUTPUT

title	Number_of_Actors
LAMBS CININATTI	15
CHITTY LOCK	13
BOONDOCK BALLROOM	13

### CONCLUSION

From the Data , found top 3 movies with more numbers of actors in it.





## TASK 7

The Music of Queen and Kris Kristofferson has seen an unlikely resurgence. As an unintended consequence, movies starting with the letters "K" and "Q" have also soared in popularity. Display the movie titles starting with the letters "K" and "Q".

### METHODS

SELECT

LIKE

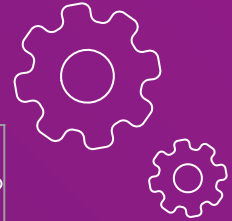
### OUTPUT

	title
▶	KANE EXORCIST
	KARATE MOON
	KENTUCKIAN GIANT
	KICK SAVANNAH
	KILL BROTHERHOOD
	KILLER INNOCENT
	KING EVOLUTION
	KISS GLORY
	KISSING DOLLS
	KNOCK WARLOCK
	KRAMER, CHOCOLATE
	KRAMER, KRAMER, KRAMER

film 21 x

### CONCLUSION

From the data the movie titles which starts with letter 'K' and 'Q' are being found.





## TASK 8

The movie 'AGENT TRUMAN' has been a great success . Display the first name and last name of all actors who are a part of this movie.

### METHODS

#### SELECT

Joined using actor\_id

Joined using film id

Where

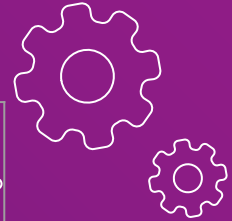


### OUTPUT

actor_id	Actor's full name	title
21	KIRSTEN PALTROW	AGENT TRUMAN
23	SANDRA KILMER	AGENT TRUMAN
62	JAYNE NEESON	AGENT TRUMAN
108	WARREN NOLTE	AGENT TRUMAN
137	MORGAN WILLIAMS	AGENT TRUMAN
169	KENNETH HOFFMAN	AGENT TRUMAN
197	REESE WEST	AGENT TRUMAN

### CONCLUSION

From the data the first name and last name as Actor's fullname of the actors who acted on the movie 'AGENT TRUMAN' is listed.





## TASK 9

Sales has been down among the family audience with kids . The management wants to promote the movies that falls under the 'children' category. Identify and display the names of the movies in the family category.

### METHODS

SELECT

Joined using film\_id

Joined using category id

WHERE

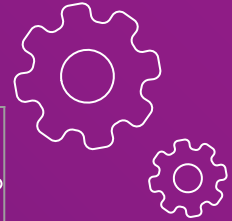


### OUTPUT

	title	name
▶	AFRICAN EGG	Family
	APACHE DIVINE	Family
	ATLANTIS CAUSE	Family
	BAKED CLEOPATRA	Family
	BANG KWAI	Family
	BEDAZZLED MARRIED	Family
	BILKO ANONYMOUS	Family
	BLANKET BEVERLY	Family
	BLOOD ARGONAUTS	Family
	BLUES INSTINCT	Family
	BRAVEHEART HUMAN	Family
	CHASING FIGHT	Family
	CUSTOMER BEHAVIOR	Family

### CONCLUSION

From the data the movie titles in the family category is being listed.





## TASK 10

- Display the average , maximum and minimum rental rates of movies based on rating.sorted in desc order of avg rental rates
- Display the movies in desc order of rental frequencies

### METHODS

a)SELECT.

Min, max and avg(rental rate)  
Group by  
Order by desc

b)SELECT

Joined on film Id  
Joined on inventory id  
Group  
Order in descending.

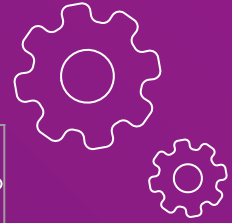
### OUTPUT

	rating	Maximum rental rate	Minimum rental rate	Average_rental_rate
▶	PG	4.99	0.99	3.051856
	PG-13	4.99	0.99	3.034843
	NC-17	4.99	0.99	2.970952
	R	4.99	0.99	2.938718
	G	4.99	0.99	2.888876

	title	Rental frequencies
▶	BUCKET BROTHERHOOD	34
	ROCKETEER MOTHER	33
	FORWARD TEMPLE	32
	GRIT CLOCKWORK	32
	JUGGLER HARDLY	32
	RIDGEMONT SUBMARINE	32
	SCALAWAG DUCK	32
	APACHE DIVINE	31
	GOODFELLAS SALUTE	31
	HOBBIT ALIEN	31
	NETWORK PEAK	31
	ROPPERS TOON	31

### CONCLUSION

From the data , found min,max and avg rental rates and ordered it and the names of the most frequently rented movies are listed in descending order.





## TASK 11

Calculate and display the number of movie categories where the average difference between the movie replacement cost and the rental rate is greater than \$15.

### METHODS

```
SELECT  
count(film.film_id),name,
```

Joined on category id

Join

Group

HAVING AVG



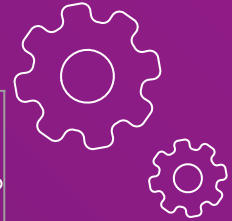
### OUTPUT

count(film.film_id)	category_name	average replacement cost	average rental rate	AVG(replacement_cost - film_rental_rate)
64	Action	20.911875	2.646250	18.265625
66	Animation	20.126364	2.808182	17.318182
60	Children	20.056667	2.890000	17.166667
57	Classics	21.007544	2.744086	18.263458
58	Comedy	19.024483	3.162414	15.862069
68	Documentary	19.622253	2.666471	16.955782
62	Drama	21.086774	3.022258	18.064516
69	Family	19.729130	2.758116	16.971014
73	Foreign	18.647534	3.099389	15.547945
61	Games	20.285982	3.252295	17.033787
56	Horror	19.865000	3.025714	16.839286
61	Misc	19.440981	2.993784	16.447196

Result 19 x

### CONCLUSION

From the data the number of movie categories where average difference between replacement cost and rental rate greater than 15 is listed.





## TASK 12

Display the film categories in which the number of movies is greater than 70

### METHODS

#### SELECT

Joined using category id and film id

Group

#### HAVING

Ordered by descending.



### OUTPUT

	name	Number of Movies
▶	Foreign	73
	Sports	74

### CONCLUSION

From the data the number of movie according to category is listed in the range above 70





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# THANK YOU

