# Homework 10

due April 27, 2025

Submit pdf-files only. Use the sakila database. Do not use temporary tables unless specified. Show your query (please: black on white) and the beginning of the results.

# Problem 1:

Find all customers who rented on May 27th, 2005, from a staff person named *Jon*. Your query needs to use the IN-keyword. Order the result by the last name alphabetically.

# Problem 2:

Find the amount of payments named "Volume" for staff people Jon and Mike on 2005-08-19.

# Problem 3:

Find the hourly amount of payments as "Volume" over all time based on the hour the payment was made. Your result should look like:

0	2851.06	
1	2571.51	
2	2533.70	
3	2828.16	

HOUR VOLUME

#### Problem 4:

Find the amount of payments as "Volume" over all time based on the hour the rental was made. Your result should look like:

HOUR	Volume
0	2897.96
1	2587.47
2	2533.70
3	2834.14

# Problem 5:

Find the first and last names of all customers who rented within 5 minutes from each other. (Hint: If you join on the same table, you need to give aliases to the table.)

#### Problem 6:

Find the first names and last names of actors and clients that acted in or rented the film "Gandhi Kwai".

#### Problem 7:

We can aggregate by more than one attribute. Find the number of rentals based on the staff member (given by the first name) and the date of a movie rental.

#### Problem 8:

Learn about ROLLUP and CUBE in

first\_name DATE(rental.rental\_da... COUNT(rental.rental\_...

Jon	2005-05-24	3
Mike	2005-05-24	5
Jon	2005-05-25	67
Mike	2005-05-25	70
Jon	2005-05-26	96
Mike	2005-05-26	78
Jon	2005-05-27	89
Mike	2005-05-27	77

SOL Find the number of	NULL	NULL	2311
rentals per staff member	NULL	2005-06-14	16
(given by the first name)	Jon	2005-06-14	8
and the rental date with	Mike	2005-06-14	8
summary information.	NULL	2005-06-15	348
What happens with	Jon	2005-06-15	169
CUBE?	Mike	2005-06-15	179
	NULL	2005-06-16	324
	Jon	2005-06-16	161
	Miles	0005 00 10	100

# Problem 9:

Use Python! Create a configuration file with .ini extension to interact with the Sakila database. Then execute a query for the first name, last name, and rental date of all rentals. Print out the first and last name in lower-case using Python.

# Problem 10:

Watch: "Apache Iceberg: What it is and Why Everyone's Talking about it". Answer the following questions with one-liners.

What is ETL? What is a Data Lake? What is Parquet? What is Kafka? What is Schema Migration? What is a Snapshot?

