SQL Code

-- First, create a table for the dataset:

CREATE TABLE medical\_data (

Age INT,

Gender INT,

Heart\_Rate INT,

Systolic\_blood\_pressure INT,

Dialostic\_blood\_pressure INT,

Blood\_sugar NUMERIC (5,2),

CK\_MB DECIMAL (5,2),

Troponin DECIMAL (5,2),

Result VARCHAR (15)

);

-- Check that uploading of the dataset has worked.

SELECT \* from medical\_data

-- Count the number of positive and negative heart attack diagnoses

SELECT result, COUNT(\*) AS count

FROM medical\_data

GROUP BY result;

🡪 positive diagnosis: 810, negative diagnoses: 509

-- Calculate the average of various health metrics grouped by the heart attack diagnosis result

SELECT result,

AVG(age) AS average\_age, -- Average age

AVG(heart\_rate) AS average\_heart\_rate, -- Average heart rate

AVG(systolic\_blood\_pressure) AS average\_systolic\_bp, -- Average systolic blood pressure

AVG(diastolic\_blood\_pressure) AS average\_diastolic\_bp, -- Average diastolic blood pressure

AVG(blood\_sugar) AS average\_blood\_sugar, -- Average blood sugar level

AVG(ck\_mb) AS average\_ck\_mb, -- Average CK-MB enzyme level

AVG(troponin) AS average\_troponin -- Average troponin level

FROM medical\_data

GROUP BY result;

* **Negative Diagnosis**: Average age ~52.1, heart rate ~77.89, systolic BP ~127.86, diastolic BP ~72.44, blood sugar ~149.76, CK\_MB ~2.55, troponin ~0.027.
* **Positive Diagnosis**: Average age ~58.76, heart rate ~78.62, systolic BP ~126.74, diastolic BP ~72.16, blood sugar ~144.67, CK\_MB ~23.27, troponin ~0.571.

**AGE**

-- Analyze the overall age distribution of patients in the dataset

SELECT AVG(age) AS average\_age, -- Average age of patients

MIN(age) AS min\_age, -- Minimum age of patients

MAX(age) AS max\_age -- Maximum age of patients

FROM medical\_data;

-- Calculate the average age of patients grouped by their heart attack diagnosis result SELECT result, AVG(age) AS average\_age

FROM medical\_data

GROUP BY result;

Negative average age 52,1; positive average age 58,76 years

**GENDER**

-- Analyze the gender distribution of patients in the dataset

SELECT gender, COUNT(\*) AS count

FROM medical\_data

GROUP BY gender;

-- Count the number of patients by gender for each diagnosis result

SELECT result, gender, COUNT(\*) AS count

FROM medical\_data

GROUP BY result, gender;

Females: 202 negative results, 247 positive results

Males: 307 negative results, 563 positive results

BLOOD SUGAR

-- Analyze blood sugar levels in patients with a positive heart attack diagnosis

SELECT AVG(blood\_sugar) AS average\_blood\_sugar, MIN(blood\_sugar) AS min\_blood\_sugar, MAX(blood\_sugar) AS max\_blood\_sugar

FROM medical\_data

WHERE result = 'positive';

Average blood sugar: 144,67; min 35,00 max blood sugar 541

**CK-MB Troponin levels**

-- Compare average troponin and CK-MB levels in positive and negative heart attack diagnoses

SELECT result, AVG(troponin) AS average\_troponin, AVG(ck\_mb) AS average\_ck\_mb

FROM medical\_data

GROUP BY result;

-- Analysis of heart attack diagnoses based on troponin threshold

SELECT troponin > 0.1 AS troponin\_high\_risk, result, COUNT(\*) AS count

FROM medical\_data

GROUP BY troponin\_high\_risk, result;

When exceeding the troponin threshold of 0,1, only 2 results were negative and 303 positive

-- Analysis of heart attack diagnoses based on CK-MB threshold

SELECT ck\_mb > 5 AS ck\_mb\_high\_risk, result, COUNT(\*) AS count

FROM medical\_data

GROUP BY ck\_mb\_high\_risk, result;

When exceeding the CK-MB threshold of 5, only 29 results were negative and 350 positive