Задание 2.1

Поиск среднего

SELECT

SUM(sale\_amount) / COUNT(\*) AS average\_sale

FROM

orders

Поиск медианы

WITH OrderedSales AS (

SELECT

sale\_amount,

ROW\_NUMBER() OVER (ORDER BY sale\_amount) AS rn,

COUNT(\*) OVER () AS total\_count

FROM

orders

),

MedianCalc AS (

SELECT

sale\_amount AS median\_value

FROM

OrderedSales

WHERE

rn = (total\_count + 1) / 2 -- Для нечётного количества записей

UNION ALL

SELECT

AVG(sale\_amount) AS median\_value

FROM

OrderedSales

WHERE

rn IN (total\_count / 2, total\_count / 2 + 1) -- Для чётного количества записей

)

SELECT

ROUND(AVG(median\_value)) AS median\_sale

FROM

MedianCalc;

Задание 2.2

SELECT

transaction\_id,

datetime,

amount,

user\_id,

COUNT(\*) AS duplicate\_count

FROM

purchases

GROUP BY

datetime,

amount,

user\_id

HAVING

COUNT(\*) > 1

Задание 2.3

WITH user\_events AS (

SELECT

user\_id,

country,

MAX(CASE WHEN event\_type = 'install' THEN datetime END) AS install\_date,

MAX(CASE WHEN event\_type = 'trial' THEN datetime END) AS trial\_date,

MAX(CASE WHEN event\_type = 'purchase' THEN datetime END) AS purchase\_date

FROM events

GROUP BY user\_id, country

),

filtered\_events AS (

SELECT

country,

COUNT(DISTINCT user\_id) FILTER (WHERE install\_date IS NOT NULL) AS installs,

COUNT(DISTINCT user\_id) FILTER (WHERE trial\_date IS NOT NULL AND trial\_date > install\_date) AS trials,

COUNT(DISTINCT user\_id) FILTER (WHERE purchase\_date IS NOT NULL AND purchase\_date > trial\_date) AS purchases

FROM user\_events

GROUP BY country

)

SELECT

country,

installs,

trials,

purchases,

ROUND(CASE WHEN installs > 0 THEN (trials \* 100.0 / installs) ELSE 0 END, 2) AS conversion\_rate\_to\_trial,

ROUND(CASE WHEN installs > 0 THEN (purchases \* 100.0 / installs) ELSE 0 END, 2) AS conversion\_rate\_to\_purchase

FROM filtered\_events

ORDER BY country;