Problem 571: Find Median Given Frequency of Numbers

Problem Information

Difficulty: Hard
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Table:

Numbers

+-------------+------+ | Column Name | Type | +-------------+------+ | num | int | | frequency | int | +-------------+------+ num is the primary key (column with unique values) for this table. Each row of this table shows the frequency of a number in the database.

The

median

is the value separating the higher half from the lower half of a data sample.

Write a solution to report the

median

of all the numbers in the database after decompressing the

Numbers

table. Round the median to

one decimal point

.

The result format is in the following example.

Example 1:

Input:

Numbers table: +-----+-----------+ | num | frequency | +-----+-----------+ | 0 | 7 | | 1 | 1 | | 2 | 3 | | 3 | 1 | +-----+-----------+

Output:

+--------+ | median | +--------+ | 0.0 | +--------+

Explanation:

If we decompress the Numbers table, we will get [0, 0, 0, 0, 0, 0, 0, 1, 2, 2, 2, 3], so the median is (0 + 0) / 2 = 0.

Code Snippets

MySQL:

```
# Write your MySQL query statement below
```

MS SQL Server:

```
/* Write your T-SQL query statement below */
```

PostgreSQL:

```
-- Write your PostgreSQL query statement below
```

Oracle:

```
/* Write your PL/SQL query statement below */
```

Pandas:

```
import pandas as pd

def median_frequency(numbers: pd.DataFrame) -> pd.DataFrame:
```

Solutions

MySQL Solution:

```
# Write your MySQL query statement below
```

MS SQL Server Solution:

```
/* Write your T-SQL query statement below */
```

PostgreSQL Solution:

```
-- Write your PostgreSQL query statement below
```

Oracle Solution:

```
/* Write your PL/SQL query statement below */
```

Pandas Solution:

```
import pandas as pd

def median_frequency(numbers: pd.DataFrame) -> pd.DataFrame:
```