

Problem List

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1440. Evaluate Boolean Expression Premium Solved

Medium | Topics | Companies

SQL Schema > Pandas Schema >

Table Variables:

Column Name	Type
name	varchar
value	int

In SQL, name is the primary key for this table.
This table contains the stored variables and their values.

Table Expressions:

Column Name	Type
left_operand	varchar
operator	enum
right_operand	varchar

In SQL, (left_operand, operator, right_operand) is the primary key for this table.
This table contains a boolean expression that should be evaluated.
operator is an enum that takes one of the values ('<', '>', '=')
The values of left_operand and right_operand are guaranteed to be in the Variables table.

Evaluate the boolean expressions in Expressions table.

Return the result table in **any order**.

The result format is in the following example.

Example 1:

Input:
Variables table:

name	value
x	66
y	77

Expressions table:

left_operand	operator	right_operand
x	>	y
x	<	y
x	=	y
y	>	x
y	<	x
x	=	x

Output:

left_operand	operator	right_operand	value
x	>	y	false
x	<	y	true
x	=	y	false
y	>	x	true
y	<	x	false
x	=	x	true

Explanation:
As shown, you need to find the value of each boolean expression in the table using the variables table.

Seen this question in a real interview before? 1/5

Yes No

Accepted 37,637/52.4K | Acceptance Rate 71.9%

Topics

Companies

Discussion (14)

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Expressions =

Code

Pandas

```
1 import pandas as pd
2 import numpy as np
3
4 def eval_expression(variables: pd.DataFrame, expressions: pd.DataFrame) -> pd.DataFrame:
5
6     # Merge left_operand value
7     df = pd.merge(
8         expressions,
9         variables.rename(columns={'name': 'left_operand', 'value': 'left_value'}),
10        on='left_operand',
11        how='left'
12    )
13
14     # Merge right_operand value
15     df = pd.merge(
16         df,
17         variables.rename(columns={'name': 'right_operand', 'value': 'right_value'}),
18        on='right_operand',
19        how='left'
20    )
21
22     # Evaluate the boolean expression
23     def eval_row(row):
24         if row['operator'] == '<':
```

Ln 11, Col 19

Testcase | Test Result

Accepted Runtime: 239 ms

Case 1

Input

Variables =

name	value
x	66
y	77