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399. Evaluate Division

Medium

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You are given an array of variable pairs `equations` and an array of real numbers `values`, where `equations[i] = [Ai, Bi]` and `values[i]` represent the equation `Ai / Bi = values[i]`. Each `Ai` or `Bi` is a string that represents a single variable.

You are also given some `queries`, where `queries[j] = [Cj, Dj]` represents the `jth` query where you must find the answer for `Cj / Dj = ?`.

Return *the answers to all queries*. If a single answer cannot be determined, return `-1.0`.

Note: The input is always valid. You may assume that evaluating the queries will not result in division by zero and that there is no contradiction.

Example 1:

Input:

equations = [["a","b"],["b","c"]], values = [2.0,3.0], queries = [["a","c"],["b","a"],["a","e"],["a","a"],["x","x"]]

Output:

[6.00000,0.50000,-1.00000,1.00000,-1.00000]

Explanation:

Given: $a / b = 2.0$, $b / c = 3.0$
queries are: $a / c = ?$, $b / a = ?$, $a / e = ?$, $a / a = ?$, $x / x = ?$
return: [6.0, 0.5, -1.0, 1.0, -1.0]

Example 2:

Input:

equations = [["a","b"],["b","c"],["bc","cd"]], values = [1.5,2.5,5.0], queries = [["a","c"],["c","b"],["bc","cd"],["cd","bc"]]

Output:

[3.75000,0.40000,5.00000,0.20000]

Example 3:

Input:

equations = [["a","b"]], values = [0.5], queries = [["a","b"],["b","a"],["a","c"],["x","y"]]

Output:

[0.50000,2.00000,-1.00000,-1.00000]

Constraints:

- 1 <= equations.length <= 20
- equations[i].length == 2
- 1 <= A_i.length, B_i.length <= 5
- values.length == equations.length
- 0.0 < values[i] <= 20.0
- 1 <= queries.length <= 20
- queries[i].length == 2
- 1 <= C_j.length, D_j.length <= 5
- A_i, B_i, C_j, D_j consist of lower case English letters and digits.

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class Solution {

public double[] calcEquation(List<List<String>> equations, double[] values, List<List<String>> queries) {

}

}

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399/2258

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Console

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