# 2473. Minimum Cost to Buy Apples Premium

Solved ●

Medium Topics Companies Hint

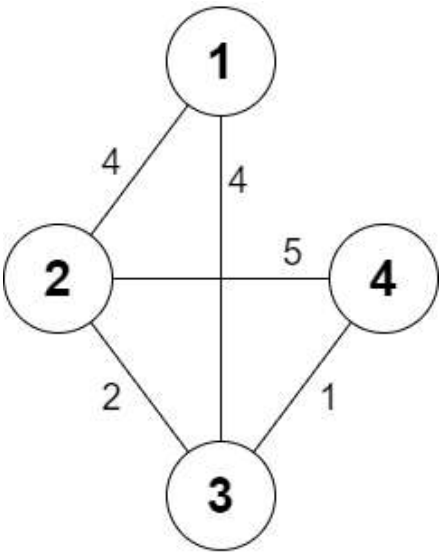
You are given a positive integer `n` representing `n` cities numbered from `1` to `n`. You are also given a **2D** array `roads`, where `roads[i] = [$a_i$, $b_i$, $cost_i$]` indicates that there is a **bidirectional** road between cities $a_i$ and $b_i$ with a cost of traveling equal to $cost_i$.

You can buy apples in **any** city you want, but some cities have different costs to buy apples. You are given the 1-based array `appleCost` where `appleCost[i]` is the cost of buying one apple from city `i`.

You start at some city, traverse through various roads, and eventually buy **exactly** one apple from **any** city. After you buy that apple, you have to return back to the city you **started** at, but now the cost of all the roads will be **multiplied** by a given factor `k`.

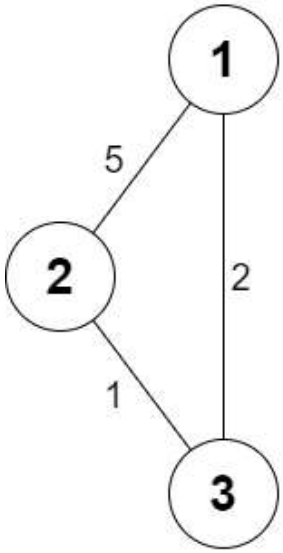
Given the integer `k`, return *a 1-based array* `answer` *of size* `n` *where* `answer[i]` *is the* ***minimum*** *total cost to buy an apple if you start at city* `i`.

**Example 1:**




> **Input:** n = 4, roads = [[1,2,4],[2,3,2],[2,4,5],[3,4,1],[1,3,4]], appleCost = [56,42,102,301], k = 2
> **Output:** [54,42,48,51]
> **Explanation:** The minimum cost for each starting city is the following:
> - Starting at city 1: You take the path 1 -> 2, buy an apple at city 2, and finally take the path 2 -> 1. The total cost is 4 + 42 + 4 * 2 = 54.
> - Starting at city 2: You directly buy an apple at city 2. The total cost is 42.
> - Starting at city 3: You take the path 3 -> 2, buy an apple at city 2, and finally take the path 2 -> 3. The total cost is 2 + 42 + 2 * 2 = 48.
> - Starting at city 4: You take the path 4 -> 3 -> 2 then you buy at city 2, and finally take the path 2 -> 3 -> 4. The total cost is 1 + 2 + 42 + 1 * 2 + 2 * 2 = 51.

**Example 2:**




> **Input:** n = 3, roads = [[1,2,5],[2,3,1],[3,1,2]], appleCost = [2,3,1], k = 3
> **Output:** [2,3,1]
> **Explanation:** It is always optimal to buy the apple in the starting city.

**Constraints:**

- $2 <= n <= 1000$
- $1 <= roads.length <= 2000$
- $1 <= a_i, b_i <= n$
- $a_i != b_i$
- $1 <= cost_i <= 10^5$
- $appleCost.length == n$
- $1 <= appleCost[i] <= 10^5$
- $1 <= k <= 100$
- There are no repeated edges.

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

Yes No

Accepted 5.9K Submissions 8.8K Acceptance Rate 67.8%

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Hint 1

Hint 2

Discussion (13)

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