04. Constrained Shortest Path

Condition:

Given a weighted directed graph with N vertices and M edges. Each vertex has a cost to visit, and each edge has a weight. Your goal is to find the shortest path from a given starting vertex to a given ending vertex, minimizing the sum of the edge weights and the costs of the vertices along the path. You must not pass through vertices with a cost greater than a given value K.

Input:

1. The first line contains three integers: the number of vertices N ($1 \leq N \leq 1000$), the number of edges M ($1 \leq M \leq 5000$), and the maximum allowable cost K ($1 \leq K \leq 1000$).
2. The second line contains N integers: the prices of the vertices (the cost of visiting each vertex). The prices are in the interval [-1000, 1000].
3. Next are M rows, each containing three integers u, v, and w ($1 \leq u, v \leq N$, $-1000 \leq w \leq 1000$) - an edge from vertex u to vertex v with weight w.
4. The last line contains two integers: the starting vertex S and the ending vertex T ($1 \leq S, T \leq N$).

Output:

- If there exists a path from S to T, derive the minimum sum of the edge weights and vertex prices along that path.
- If no such path exists, output -1.

Examples:

Input	Output
5 7 10 3 2 4 5 1 1 2 2 1 3 4 2 3 1 2 4 7 3 4 3 3 5 1 4 5 2 1 5	9