Seeking Happiness

Assignment 3
Data Structures & Algorithms
Due date: xx March, 2020

Problem Statement: IIT-H is a big sad place where everyone is seeking happiness. Due to high academic load and strict policies, Chiku a first year student has lost his happiness somewhere.
The college has N nodes and M edges connecting the nodes. There is a cost associated with each edge. Initially Chiku is present at node S and his happiness is present at node T. He wants to reach his happiness by performing a journey in a certain fashion. His journey is split into two phases. In the first phase, he can only go through those edges that have weight **atmost** A. In the second phase, he can only go through those edges that have weight **atleast** B. Note that either of the phases can be empty i.e. the journey can consist of only phase-1 or phase-2. Now the objective is to minimize the total cost for the journey.

Input
The first line contains two space-separated integers N and M - Number of nodes and Number of edges.
The following M lines contain 3 integers u_i ,v_i ,w_i. This means that there is a edge connecting nodes u_i and v_i, with cost w_i.
The last line contains four integers S, T, A and B.
Constraints
$1 \leq N \leq 10^5$
$0 \leq M \leq 10^6$
$1 \leq u_i$, v_i, S, $T \leq N$
$1 \leq w_i$, A, $B \leq 10^9$

Output
Output the total minimum cost required for the journey. If there is no way to perform the journey, output -1.
Time Limit: 3 sec
Memory Limit: 256 MB

Sample Test Case

Input	Output
4 6 1 2 4 2 4 4 4 1 6 1 3 7 4 3 10 3 2 2 1 4 5 6 6 9 2 6 4 6 4 5 4 5 1 5 3 10 3 2 9 2 5 5 1 5 2 1 6 2 1 2 1 2 4 5 3	6 4