Bobs Rating

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	512 megabytes

Given a graph with N vertices and M unordered edges. Each edge i has a passing rating of W_i and connects vertices U_i and V_i.

Bob is allowed to move from one vertex to another using edges. Bob can use the i-th edge if and only if his rating is greater than or equal to W_i. He can use the same edge and visit the same vertex as many times as he wants.

Whenever Bob is located at vertex x, he has two options for gaining a new rating:

- He can gain A_x rating for free. He can use this option only once during his journey.
- He can gain 1 rating for C_x coins. He can use this option as many times as he wants throughout his journey.

Bob now has Q queries. For each query i, answer the following question:

- Bob has an initial rating of R_i and is located at vertex S_i. He is planning to reach vertex T_i. What is the minimum number of coins required for this?

Print -1 if he cannot reach vertex T_i even with an infinite number of coins.

Input

- The first line contains one integer T ($1 \leq T \leq 100$), the number of test cases.
- Then, for each test case:
  - The first line contains three space-separated integers N, M, Q ($1 \leq N, M, Q \leq 5 \cdot 10^5$).
  - The second line contains N space-separated integers $A_1, A_2, \ldots, A_N$ ($1 \leq A_i \leq 10^6$).
  - The third line contains N space-separated integers $C_1, C_2, \ldots, C_N$ ($1 \leq C_i \leq 10^6$).
  - Then, M lines follow, each containing three space-separated integers U_i, V_i, W_i ($1 \leq U_i, V_i \leq N; 1 \leq W_i \leq 10^{12}$).
  - Then, Q lines follow, each containing three space-separated integers S_i, T_i, R_i ($1 \leq S_i, T_i \leq N; 1 \leq R_i \leq 10^{12}$).

It is guaranteed that the sum of N across all test cases does not exceed $5 \cdot 10^5$.

It is guaranteed that the sum of M across all test cases does not exceed $5 \cdot 10^5$.

It is guaranteed that the sum of Q across all test cases does not exceed $5 \cdot 10^5$.

Output

For each test case, print Q lines, each consisting of one integer, the answer for that query.

Example

standard input	standard output
1 5 5 4 5 2 4 3 10 1 2 3 4 5 3 3 10 1 2 5 3 4 7 1 3 13 2 5 21 4 5 3 2 2 4 1 4 2 5 2 10	11 0 4 5