Buses

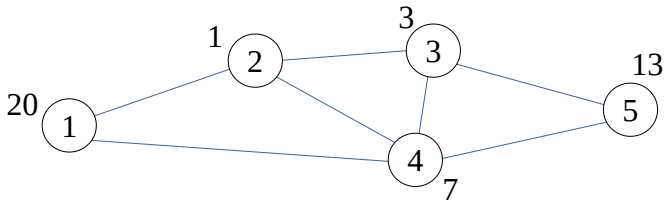
1 second, 256 MB

There are **N** bus stations (2 <= N <= 3,000) in the mountain area of Thailand. The height of bus station **i** is $\mathbf{H_i}$. There are **M** direct routes between bus stations (1 <= **M** <= 30,000). Route **i**, for 1 <= **i** <= **M**, connects bus station $\mathbf{A_i}$ with bus station $\mathbf{B_i}$. All bus routes are bidirectional, i.e., you can either go from $\mathbf{A_i}$ to $\mathbf{B_i}$ or from $\mathbf{B_i}$ to $\mathbf{A_i}$.

There are many kinds of buses. A bus with power **P** can travel on a bus route from bus station **i** to bus station **j** only if $\mathbf{H_j} - \mathbf{H_i}$ <= **P**. Therefore, a particular bus might not be able to travel from one station to another through bus routes, if its power is too low. Note that for a bus route from bus status **i** to bus station **j**, if $\mathbf{H_j} < \mathbf{H_i}$, any bus can travel on this route, because it is a down-hill route. (See example below)

There are **Q** questions (1 <= **Q** <= 10). For each question, you are given a stating station $\mathbf{S_j}$ and a destination station $\mathbf{T_j}$. You are also given the bus power **P**. You would like to know if a bus with power P can travel from station $\mathbf{S_j}$ to $\mathbf{T_j}$.

Consider the following example with N = 5 with M = 7. The height of each bus station is shown next to the bus station. (For example, bus station 1's height $\mathbf{H_1}$ is 20.)



The next table shows Q = 4 questions traveling objectives and bus powers. The table also shows the answers to all questions.

j	$\mathbf{S_j}$	$\mathbf{T_j}$	$\mathbf{P_j}$	Possible?
1	1	5	6	yes
2	1	5	5	no
3	2	1	14	yes
4	2	1	10	no

Input

The first line of input contains three integers **N M** and **Q**. (2 <= **N** <= 3,000; 1 <= **M** <= 30,000; 1 <= Q <= 10)

The next line contains **N** integers $\mathbf{H_1}$, $\mathbf{H_2}$, … , $\mathbf{H_N}$ representing the heights of bus stations, i.e., bus station i's height is $\mathbf{H_i}$. (1 <= $\mathbf{H_i}$ <= 10,000)

The next **M** lines contains route information. Specifically, for 1 <= **i** <= **M**, line 2+**i** contains two integers $\mathbf{A_i}$ and $\mathbf{B_i}$, that represent a route between station $\mathbf{A_i}$ and $\mathbf{B_i}$. (1<=$\mathbf{A_i}$<=**N**; 1<=$\mathbf{B_i}$<=**N**)

The next **Q** lines contain questions. For 1 <= **j** <= **Q**, line **2+M+j** contains three integers $\mathbf{S_j}$ $\mathbf{T_j}$ and $\mathbf{P_j}$ (1<=$\mathbf{S_i}$<=**N**; 1<=$\mathbf{T_i}$<=**N;** 1 <= $\mathbf{P_j}$ <= 10,000).

Output

The output contains **Q** lines, each line answers the question for one passenger. On line j, the output should contain string `yes` if bus **j** with power $\mathbf{P_j}$ can travel from bus station $\mathbf{A_i}$ to bus station $\mathbf{B_i}$ and should contain string `no` otherwise.

(An example is in the next page.)

Example

Input	Output
5 7 4 20 1 3 7 13 1 2 2 4 4 1 3 2 3 4 3 5 4 5 1 5 6 1 5 5 2 1 14 2 1 10	yes no yes no