Dijkstra's algorithm

For a given graph, determine the length of the shortest path between two vertices.

**Input**

The vertices are numbered with natural numbers (including zero). The total number of vertices (not more than 100) will be given at the input. Next, the number k will be followed by k description of connections in the following format:  
and b in  
which means connection from a to b, length: w (simultaneously also from b to a length w).  
Then the number m will appear on the input - it is the number of pairs of vertices between which the shortest path should be found. After this, m pairs of numbers will occur - these are the numbers of the start and destination vertices.

**Out**

For each pair of vertices, the length of the shortest path connecting the two vertices should be listed, or "no" if the path does not exist.

**Example**

**Input:**  
4  
3  
0 1 1  
2 1 1  
0 2 5  
2  
0 3  
0 2  
  
**Out:**  
no path  
2