In ABC company, team lead need to discuss about a new project. So that he gathered the team members at a place. One of the team member couldn't understand the theme is willing to reach out his colleague in the shortest time period.

Input Format:

First line is a positive integer n, 1<=n<=20 denoting the number of employees in the meeting.
Next consecutive n lines are the unique id's of employees.
Next line consists of a positive integer s, denoting all the ways to reach from one employee to another employee
Next consecutive s lines, contains two employees that are adjacent with some distance.
Next line consists of the id of the employee who got a doubt.
Last line consists of the id of the employee who will clarify doubt.

Output Format:

Shortest time for an employee to reach another employee.

Solution:

```
graph = [[] for _ in range(100000)]

def addEdge(S, D, weight):
    graph[S].append([D, weight])

def shortestPath(S, D, V ):
    d = [10*9]*(10005)
    inQueue = [False]*(10005)
    d[S] = 0
    q = []
    q.append(S)
    inQueue[S] = True

    while (len(q) > 0):
        u = q.pop(0)
        inQueue[u] = False
        for i in range(len(graph[u])):
            v = graph[u][i][0]
            weight = graph[u][i][1]

            if (d[v] > d[u] + weight):
                d[v] = d[u] + weight
                if (inQueue[v] == False):
```

```
                q.append(v)
                inQueue[v] = True

    return d[D]
v=int(input())
for i in range(v):
    h=int(input())
e=int(input())
for i in range(e):
    x,y,z=map(int,input().split())
    addEdge(x,y,z)
S=int(input())
D=int(input())
print(shortestPath(S,D,v))
```