Express Delivery

Task: You join a company that makes deliveries using smart drones. Each station has a different type of drone with a specific speed and battery capacity. The supply of that type of drone at that station is practically infinite.

Your company does deliveries from one station to another and your task is to find the fastest possible delivery paths. After a drone leaves a station, it can travel until its battery capacity is depleted. At this point, it has to be inside another station to hand over the delivery to another drone. The drones cannot be recharged.

You know the distances between stations, the speeds and capacities as well as a list of possible delivery requests. For each possible request, compute the fastest possible delivery time.

Input: The input has the following form:

- The first line contains two integers: n, the number of stations, and q, the number of deliveries.
- The next n lines contain two integers each: c_i is the capacity in kilometers and s_i is the speed in kilometers per hour of drones at station i.
- The next n lines contain n integers each. The j-th integer on the i-th line gives the distance $d_{i,j}$ from station i to station j in kilometers. The distance -1 indicates that station j cannot be reached directly from station i.
- The next q lines contain two integers each: u_k, the start, and v_k, the end station of delivery request k.

Output: Compute the time y_i in hours required for each request i rounded to two places. The output is a single line $y_1\ y_2\ \ldots\ y_q$ given as floating point numbers.

Sample Input 1:

```
3 1
2 3
2 4
4 4
-1 1 -1
-1 -1 1
-1 -1 -1
1 3
```

Sample Output 1:

```
0.58
```

Sample Input 2:

```
4 3
30 60
10 1000
12 5
```

20 1
−1 10 −1 31
10 −1 10 −1
−1 −1 −1 10
15 6 −1 −1
2 4
3 1
3 2

Sample Output 2:

0.51 8.01 8.0