



Visiting Attractions

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Problem

Submissions

Leaderboard

Discussions

John is taking a weekend city break. He decided to spend one day trying to visit as many attractions as possible and spend one day relaxing.

You will be given the coordinates of the hotel where John is staying, attractions in the city, and metro stations. You are required to help John maximize the number of attractions he can visit in one day.

If there are multiple solutions, output the first one in alphabetical order, i.e. 1, 2, 4, 3 is before 2, 1, 4, 3.

Note

- All Attractions are opened from 09:00 AM to 09:00 PM.
- John will spend 1 hour at each attraction.
- John can walk at a speed of 5 KM/hour and can also take the Metro which has a speed of 25 KM/hour.
- John will leave the hotel at 09:00 AM
- All coordinates are in the same dimension so you can use Euclidean distance to compute distances.
- Each unit of Euclidean distance is equal to 1 KM
- Assume that Metro and John will always move in direct lines.
- Metro lines are bi-directional
- Waiting time at station or at attractions is always 0

Input Format

- X_h, Y_h - Coordinates of the hotel where John is staying.
- N - Number of attractions in the city ($1 < N \leq 10$)
- N lines - Each line is the coordinates of the attraction i
- S - Number of Metro stations ($1 < S \leq 100$)
- S lines - Each line is the coordinates of Station j ,
- L - Number of Metro lines,
- L lines - Each line represents a Metro line, and is a list of space-separated Metro station IDs. Stations on the same line can be reached from *each other* directly without the need to change Metro.

Attraction IDs are $[1, N]$, Station IDs are $[1, S]$.

Output Format

Output the maximum number of attractions John can visit (X) followed by X integers which are the attractions in the order which John has to visit them.

Sample Input

```
43 31
3
90 39
79 22
11 0
2
60 26
40 36
1
1 2
```

Sample Output

```
2
2 1
```

Explanation

Sample case description: John will leave hotel at 09:00 AM, he will walk to the metro-station 2 for 1.16 hour and will take the metro to station 1 for 0.89 hour, and then walk for 3.9 to attraction 2 (79, 22), will stay for 1 hour and then walk for 4.05 hour to attraction 1 (90, 39).



More info about how metro works https://en.wikipedia.org/wiki/Rapid_transit



Submissions: 132

Max Score: 300

Difficulty: Difficult

[More](#)

Current Buffer (saved locally, editable)  

Java 8  

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT.
8         Your class should be named Solution. */
9     }
10 }
```

Line: 1 Col: 1

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Run Code

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