Distance of Encoded Coordinate System

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1. Topic

Stack,Queue

2. Description

This is a world of two dimension. North Korea wants to analyze the N states that might happen in the upcoming missile testing next week. The location of wreckage of missile are not available directly. However, the explosion sound can be detected and transformed into missile. North Korea has no idea how to transform it , so please help them. In each state, the launching point(Pi, i=1,2,....,N) and the distance is Di. Distance is defined in this way, swap the number in each digits and find the minimum number that is strictly bigger than you, this is distance “1”.Distance is addictive. For example, Pi=12345, Di =1,then Ei=12354, Pi=27819, Di=2, then Ei=27918. There might appear repeated number , for example, Pi=11345. Now you are the hero of North Korea and devil of South Korea, please analyze the condition, that is, find out where the wreckage actual location (Ei) in each state. If you can’t find Ei, it means the missile information is wrong, please output “NOPE!!”

3. Input and output format

Input:
N
D1 P1
D2 P2
……

Output
E1
E2
……

N ：Number of states, 1<=N<=100,000
Di：The real distance , 1<=Di<=1,000
Pi：The i th launching point, 1<=Pi<=100,000,000
Ei : The wreckage’s location, 1<=Ei<=100,000,000 or “NOPE!!”

4. Sample input and output

Input:
10
8 8380
3 7839
1 9227
24 8902
4 2970
4 7865
8 3270
4 2991
8 3365
6 3147

output:
NOPE!!
7983
9272
NOPE!!
7290
8675
7320
9291
6335
4137

5. Time and memory limit

Time: 7 sec
Memory: 100MB

6. Slides

http://ppt.cc/B4Nya