A Thrifty Vacation

Siva is planning to travel to N number of cities in South India during the upcoming festival holiday. However, as he is a complete newbie to the location, he hires a local tour guide to assist his travel plan. The tour guide provides Siva with a list of travel cost to and from between each pair of cities. As Siva is a thrifty person, he wants to spend as less as possible while travelling to all the cities.

Your task is to help Siva to find the most cost-efficient travel route that would enable him to visit every N number of cities exactly once and return to the origin city.

Input Format

The first line contains the number of cities, N. The following N lines contains N integers, denoting the adjacency matrix, which represents the cost of travel between each pair of cities.

Refer the sample input for illustration.

Constraints

- **The number of cities, N:** A positive integer where (3 <= N <= 50).
- **The cost of travel between a pair of city, C :** A positive integer where (1 <= C <= 1000)

Output Format

Output the the least costing path's city indices in sequential order.

Refer the sample output for illustration.

Sample Input 0

```
9
000 374 200 223 108 178 252 285 240 356
374 000 255 166 433 199 135 095 136 017
200 255 000 128 277 128 180 160 131 247
223 166 128 000 430 047 052 084 040 155
108 433 277 430 000 453 478 344 389 423
178 199 128 047 453 000 091 110 064 181
252 135 180 052 478 091 000 114 083 117
285 095 160 084 344 110 114 000 047 078
240 136 131 040 389 064 083 047 000 118
356 017 247 155 423 181 117 078 118 000
```

Sample Output 0

```
1 5 3 2 9 7 4 6 8
```