Lloyd of London
Input File: LloydIn.txt

Lloyd lives in London, and has a friend in each of the cities that British Airways serves. The airline has direct flights from London to some of the cities they serve. The other cities can be reached via a series of connecting British Airways flights originating from London. Every year, Lloyd will visit one of his friends. When making his flight plans, Lloyd always uses two criteria: 1- being British, he always flies British Airways and 2- being cheap, he always chooses the flights that result in the *minimum* air fare and he will never pay more than $10,000 to visit a friend. Your task is to determine the most inexpensive airfares between London and all the other cities British Airways flies to.

For example, if British Airways serviced four cities London, Paris, Rome and Madrid abbreviated as city number 1, 2, 3, and 4 respectively - then their flight and fare schedule could be expressed as:

		TO			
		1	**2**	**3**	**4**
F	**1**	0	100	0	200
r	**2**	150	0	50	0
o	**3**	100	0	0	30
m	**4**	0	75	0	0

This would indicate that there is a flight from London to both Paris and Madrid and the fares are $100 and $200 respectively, there is a flight from Paris to both London to and Rome and the fares are $150 and $50 respectively, there is a flight from Rome to both London to and Madrid and the fares are $100 and $30 respectively, and there is a flight from Madrid to Paris and the fare is $75. In this case the most *inexpensive* airfare from London to Madrid would be $180 (1 to 2, 2 to 3, 3 to 4).

Inputs
The first line of the input contains an integer, which is the number of years to consider. This will be followed by a group of lines for each year. The first line in a group will contain two integers separated by a space, which will be the number of cities Brtish Airways services, C, followed by the London airport number. This will be followed by one line of input per city, in city number order. Each line will contain C integers seperated by a space, which will be the fares from that city to all the cities, in city number order. If there is no service between two cities, the fare will be zero.

Outputs
There will be one line of output per year each containing C integers separated by a space. These integers will be the most inexpensive fares from London to all the other cities in city number order. If a city cannot be reached from London, output a fair of zero.

Sample Inputs and outputs
(see next page)

Sample Inputs

```
2
4 1
0 100 0 200
150 0 50 0
100 0 0 30
0 75 0 0
8 8
0 9 0 9 3 0 0 0
9 0 3 0 1 0 0 0
0 3 0 2 2 0 0 0
9 0 2 0 0 9 0 0
3 8 2 0 0 8 0 0
0 0 0 9 8 0 3 9
0 0 0 3 0 3 0 4
0 0 0 0 0 9 4 0
```

Sample Outputs

```
100 150 180
14 12 9 7 11 7 4
```