



Quarantine

The global pandemic of coronavirus disease 2019 (COVID-19) was first reported on 31 December 2019 by the World Health Organization country office following a cluster of pneumonia cases in Wuhan City, Hubei Province of China. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been confirmed as the causative virus of COVID-19. To date, COVID-19 has become a global pandemic and it is continuing to spread across the globe. President Ramaphosa announced that the COVID-19 outbreak has been declared a national state of disaster in terms of the Disaster Management Act.

On 29 March 2020, Western Cape Premier Alan Winde confirmed that a person has tested positive for the virus in Cape Town's largest township, Khayelitsha. Thousands of families live in very close proximity to one another in the township and some households have as many as seven to 10 people living together, making social distancing difficult. Water and sanitation is also a major problem, with many houses that still don't have access and one block of communal toilets are shared between hundreds of residents. Meanwhile, in the neighbouring community of Mitchells Plain, five people have tested positive.

The Western Cape Government decided to setup temporary quarantine centres. They have identified the unused parliamentary homes across Cape Town. Each family needing quarantine would be allocated a home big enough to house the entire family. The entire family must be kept together in one home.

Would there be enough homes to house each the families? The Premier called on his advisors to help him decide which homes to use. The Premier wants to minimize the expense of housing the families. As one of the advisors, your job was to help the Premier. You took it very seriously: if you failed, you and the whole Province are at risk!

Input

The input contains several test cases. The first line of each test case contains two integers between 1 and 20000 inclusive, indicating the number of families (f) that require quarantine, and the number of houses (h) available. The next f lines each contain an integer, and give the number of members in the family. Assume the families are labelled from 0 to $f-1$. The following h lines each contain an integer, and specify the occupancy size of the house. Assume the houses are numbered from 0 to $h-1$. The last test case is denoted by a line containing '0 0'.

Output

For each test case, output a line containing the house number allocated to each family (sorted by family size, e.g. 1 2 means family 1 is allocated to house 2). If all families have been allocated a house, output the line 'We are containing this virus!'. If it is not possible to allocate a house to every family, output the line 'Western Cape is doomed!'.

Sample

Input

2 3

5

4

7

8

4

2 4

7

2

4

3

1

2

2 1

5

5

10

0 0

Sample Output

1 2

0 0

We are containing this virus!

1 3

Western Cape is doomed!

Western Cape is doomed!