Door Enclosure

Sule was a duck ranchman. Sule want to build a very large cage for his ducks. The cages also have a lot of doors. the door is open based on the number of ducks that will come out from the cage. If only one duck will come out, then only the first door will open. And if there are 2 ducks will come out, then second door will open. However, if there are 3 ducks then it will open 2 doors of the first door and the second door will open.

Your task is to determine which doors will be open if there are n ducks that will come out of the cage.

Input

The first line of input is an integer T which is the number of test case. T next line is the number n (1≤n≤21474836447) which represents the amount of ducks that will come out of the cage.

Output

The output is the doors that will open. If the doors that will open more than 1, then separate the output with space.

Example

Input:
4

1

2

3

4

Output:
1

2

1 2

3