# Problem G. Great Guest Gathering

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|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 512 megabytes |

Pizza Factory has decided to host a great guest gathering for promotional purposes and has invited $n$ their most valuable guests. The chef has prepared $n$ plates, each having exactly one pizza on it. All pizzas are of different types. The chef doesn't know the preferences of guests, so he wants everyone to be able to taste pizza of each type.

In order achieve that, he divided each pizza into $n$ equal slices, and now he wants to shuffle them into $n$ "festival" pizzas, each containing one slice of each type. He has one additional small plate that can hold only one slice of any pizza.

One chef's move can be either:

- Taking a slice of pizza from some plate and placing it on the free space on another plate. Note that each plate can contain no more than $n$ slices simultaneously.
- Taking a slice of pizza from some plate and placing it on the additional small plate, if this plate is free.
- Taking a slice of pizza from the additional small plate and placing it on the free space on another plate.

Your task is to help chef come up with the shortest possible list of moves he has to make in order to prepare $n$ "festival" pizzas.

## Input

The first line of the input contains a single integer $n$ ($2 \le n \le 100$).

## Output

Print the shortest list of moves that is required to make $n$ "festival" pizzas.

Print each move on a separate line of output as three integers $a$, $b$ and $c$ ($0 \le a, c \le n$, $1 \le b \le n$). A line containing "$a$ $b$ $c$" means that the chef moves a slice belonging to pizza $b$ from plate $a$ to plate $c$, where plate 0 denotes the additional small plate.

## Example

| standard input | standard output |
|---|---|
| 3 | 1 1 0<br>3 3 1<br>2 2 3<br>1 1 2<br>2 2 1<br>3 3 2<br>0 1 3 |