The twenty-one casks P31618_en

A sheikh had to pay three men with a batch of 21 equal wine casks, seven of them being full, seven half-full, and seven empty. How could Beremiz do the distribution, in such a way that each man received the same number of casks and the same amount of wine?

Input

Input consists in several natural numbers n, all between 2 and 10^6.

Output

For every n, print a line with "n:". Then, print in three lines any way to divide n full casks, n half-full casks and n empty casks among three men, so that each one receives n casks and the same total amount of wine. The i-th line must contain, separated by spaces, the number of full casks, half-full casks and empty casks that correspond to the i-th man. Follow the format of the samples exactly.

Sample input 1

```
7
7
9
```

Sample output 1

```
7:
3 1 3
2 3 2
2 3 2
7:
3 1 3
3 1 3
1 5 1
9:
3 3 3
3 3 3
3 3 3
```

Problem information

Author: Salvador Roura
Translator: Salvador Roura

Generation: 2026-01-25T10:12:36.237Z