

# Sequences

Given a positive integer  $n$ , please find all sequences of positive integers  $x_1, x_2, \dots, x_k$  such that the sum of all  $k$  elements of the above sequence is equal to  $n$  and for each  $i, 1 \leq i < k$  we have  $x_{i+1} - x_i \in \{-2, 0, 3\}$ .

## Input

The first line contains the number of test cases  $t$ . Each of the following  $t$  lines contains just one number  $1 \leq n \leq 30$ .

## Output

For each test case print all possible sequences satisfying the problem criteria. Sequences must be given in the lexicographic order, with each sequence printed in a separate line.

## Example

**Input:**

4  
2  
3  
4  
8

**Output:**

1 1  
2  
  
1 1 1  
3  
  
1 1 1 1  
2 2  
3 1  
4  
  
1 1 1 1 1 1 1  
1 1 1 1 4  
1 1 4 2  
2 2 2 2  
3 1 1 1 1 1  
3 1 4  
3 3 1 1  
4 2 2  
4 4  
5 3  
8

## Scoring

By solving this problem you score 10 points.