

Trung is bored with his mathematics homeworks. He takes a piece of chalk and starts writing a sequence of consecutive integers starting with 1 to  $N$  ( $1 < N < 10000$ ). After that, he counts the number of times each digit (0 to 9) appears in the sequence. For example, with  $N = 13$ , the sequence is:

12345678910111213

In this sequence, 0 appears once, 1 appears 6 times, 2 appears 2 times, 3 appears 3 times, and each digit from 4 to 9 appears once. After playing for a while, Trung gets bored again. He now wants to write a program to do this for him. Your task is to help him with writing this program.

## Input

The input file consists of several data sets. The first line of the input file contains the number of data sets which is a positive integer and is not bigger than 20. The following lines describe the data sets.

For each test case, there is one single line containing the number  $N$ .

## Output

For each test case, write sequentially in one line the number of digit 0, 1, ..., 9 separated by a space.

## Sample Input

```
2
3
13
```

## Sample Output

```
0 1 1 1 0 0 0 0 0 0
1 6 2 2 1 1 1 1 1 1
```