Zeros and ones   P20867_en

Write a program that prints all the combinations of z zeros and o ones such that $z + u = n$, for a given n.

Input

The input consists of a natural $0 < n < 11$.

Output

Your program must print all the combinations in lexicographical order (look the instance), one per line, the characters separated by spaces.

Sample input 1

```
3
```

Sample output 1

```
0 0 0
0 0 1
0 1 0
0 1 1
1 0 0
1 0 1
1 1 0
1 1 1
```

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Problem information

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