

### Problem1:

Find the minimum number with the given sum of digits  $s$  such that all digits in it are distinct (i.e. all digits are unique).

For example, if  $s = 20$ , then the answer is 389. This is the minimum number in which all digits are different and the sum of the digits is 20 ( $3+8+9=20$ )

For the given print the required number.

#### **Examples:**

```
20 -> 389
8 -> 8
45 -> 123456789
10 -> 19
```

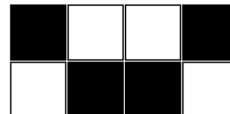
### Problem2:

You are given two **even** integers  $n$  and  $m$ . Your task is to find **any** binary matrix  $a$  (consists of 0 and 1) with  $n$  rows and  $m$  columns where every cell  $(i,j)$  has **exactly** two neighbours with a different value than  $a_{i,j}$ . Two cells in the matrix are considered neighbours if and only if they share a side.

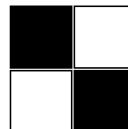
More formally, the neighbours of cell  $(x,y)$  are:  $(x-1,y)$ ,  $(x,y+1)$ ,  $(x+1,y)$  and  $(x,y-1)$ . It can be proven that under the given constraints, an answer always exists.

#### **Examples:**

```
2 4 -> 1 0 0 1
        0 1 1 0
```



```
2 2 -> 1 0
        0 1
```



```
4 4 -> 1 0 1 0
        0 0 1 1
        1 1 0 0
        0 1 0 1
```

