

E. Fair share

Program:	fair.(cpp java py)
Input:	fair.in
Balloon Color:	White

Description

Tom and Jerry found K cakes ($1 < K \leq 10$), each shaped like a decimal digit. They had a fight on who should eat which cake. Daniel came to rescue. He wanted to give them a fair share. This was done as follows. Daniel first constructed two n digit numbers ($n \leq K/2$) from the given set of cakes whose difference is minimum. “This difference is the fair share”, said Daniel. He then gave one cake number to Jerry and the other to Tom. Both Tom and Jerry were happy to eat their numbers (i.e., cakes), knowing that their difference is the fair share.

Example

Given the cake set $\{0, 1, 3, 5, 6, 9\}$, and $n=2$, the fair share would be $= 1$, as the two 2-digit numbers that generates the fair share are 59 and 60. Note that in this example, 01 can be a valid 2-digit number.

Input

The input consists of several test cases. Each test case is given in two lines. The first line containing K ($1 < K \leq 10$) followed by n ($1 \leq n \leq K/2$). The second line contains K distinct digits (between 0-9) separated by space(s). Input is terminated by a case having $K = 0$, which should not be processed.

Output

For each test case, you are to output one line, containing the fair share.

Sample Input / Output

fair.in

```
5 2
1 3 5 6 9
5 1
3 5 1 9 6
6 2
0 3 1 6 5 9
0
```

OUTPUT

```
2
1
1
```