A and B

You task is to generate all variations of **A** and **B**, with provided length **N**.

Input

Read from the standard input

- On the first line, find the number N
- On the second line, find the numbers A and B

Output

Print to the standard output

- Print one variation on each line
 - Ordered lexicographically

Sample tests

Input

3 1 3

Output

```
111
113
131
133
311
313
331
331
```

Input

475

Output

