

# 01 Sequence

The input consists of exactly 5 test cases in the following format:

## Input

$N$   $A_0$   $B_0$   $L_0$   $A_1$   $B_1$   $L_1$  [ $3 \leq N \leq 1000, 1 \leq A_0 \leq B_0 \leq L_0 \leq N, 1 \leq A_1 \leq B_1 \leq L_1 \leq N$ ]

## Output

Exactly 5 lines, each contains:

a) A  $N$ -character sequence (We name it  $S$ ) consisting of only characters '0' and '1' and no extra whitespaces, which satisfy the following conditions:

- The number of '0' in any consecutive subsequence of  $S$  whose length is  $L_0$  is not more than  $B_0$  and not less than  $A_0$ .
- The number of '1' in any consecutive subsequence of  $S$  whose length is  $L_1$  is not more than  $B_1$  and not less than  $A_1$ .

or

b) A single number -1, if the sequence which satisfies the conditions above doesn't exist.

## Example

### Input:

6 1 2 3 1 1 2

[and 4 test cases more]

### Output:

010101

[and 4 test cases more]