Checkerboard

Time limit: 1 second

An $r \times c$ grid of squares is to be colored in a checkerboard style. The board will be filled with rectangles made up of the grid squares. The heights and widths of the rectangles will be specified. **Black** and **White** are the only two colors of the rectangles. Any two adjacent rectangles that share a side should be colored differently. The top-left rectangle should be **Black**. Print the checkerboard.

Input

The first line contains four space-separated integers r, c, v and h ($1 \leq v \leq r \leq 50$, $1 \leq h \leq c \leq 50$) where the checkerboard is to have r rows and c columns, with v rectangles vertically and h rectangles horizontally.

Each of the next v lines contain a single positive integer a. The sum of the a values will be exactly r. These are the heights of the v rectangles in each column, in order from top to bottom.

Each of the next h lines contain a single positive integer b. The sum of the b values will be exactly c. These are the widths of the h rectangles in each row, in order from left to right.

Output

Print the described checkerboard, in the form of r strings of length c, one per line. The strings should only contain the characters upper-case `B` (for a **Black** square) and upper-case `W` (for a **White** square).

Sample Input	Sample Output
6 5 3 2 1 2 3 3 2	BBBWW WWWBB WWWBB BBBWW BBBWW BBBWW
4 4 2 2 1 3 3 1	BBBW WWWB WWWB WWWB