Problem M. Fillomino

Prof. Pang is the king of Pangland. Pangland is a board with size $n \times m$. The cell at the i-th row and the j-th column is denoted as cell (i, j) for all $1 \le i \le n, 1 \le j \le m$. If two cells share an edge, they are connected. The board is **toroidal**, that is, cell $(1, y)$ is also connected to (n, y) and $(x, 1)$ is also connected to (x, m) for all $1 \le x \le n, 1 \le y \le m$.

Prof. Pang has three sons. We call them the first son, the second son and the third son. Each of them lives in a cell in Pangland. The i-th son lives in cell (x_i, y_i). No two sons live in the same cell. Prof. Pang wants to distribute the cells in Pangland to his sons such that

- Each cell belongs to exactly one son.
- There are cnt_i cells that belong to the i-th son for all $1 \le i \le 3$.
- The cells that belong to the i-th son are connected for all $1 \le i \le 3$.
- The cell that the i-th son lives in must belong to the i-th son himself for all $1 \le i \le 3$.

Please help Prof. Pang to find a solution if possible.

Input

The first line contains a single integer T ($1 \le T \le 10^5$) denoting the number of test cases.

For each test case, the first line contains two integers n, m ($3 \le n, m \le 500$) separated by a single space.

The next line contains three positive integers cnt_1, cnt_2, cnt_3 ($cnt_1 + cnt_2 + cnt_3 = nm$) separated by single spaces.

The i-th line of the next 3 lines contains two integers x_i, y_i ($1 \le x_i \le n, 1 \le y_i \le m$) separated by a single space.

It is guaranteed that (x_1, y_1), (x_2, y_2), (x_3, y_3) are distinct.

It is guaranteed that the sum of nm over all test cases is no more than 10^6.

Output

For each test case, if there is no solution, output "`-1`" in one line. Otherwise, output n lines. Each line should contain m characters. The j-th character in the i-th line should be '`A`' if cell (i, j) belongs to the first son, '`B`' if cell (i, j) belongs to the second son and '`C`' if cell (i, j) belongs to the third son. Cell (x_i, y_i) must belong to the i-th son for all $1 \le i \le 3$. The cells that belong to the i-th son must be connected for all $1 \le i \le 3$.

Example

standard input	standard output
2 3 3 1 3 5 1 1 2 2 3 3 4 4 5 5 6 2 2 2 3 3 3	ABB CBC CCC BABB BABC CACC AACC