Problem H

Check Pattern is Good

Prof. Shou is given an $n \times m$ board. Some cells are colored black, some cells are colored white, and others are uncolored.

Prof. Shou likes **check patterns**, so he wants to color all uncolored cells and maximizes the number of check patterns on the board.

4 cells forming a 2×2 square are said to have the check pattern if they are colored in one of the following ways: $\begin{matrix}\texttt{BW}\\\texttt{WB}\end{matrix}$ or $\begin{matrix}\texttt{WB}\\\texttt{BW}\end{matrix}$. Here '`W`' ("wakuda" in Chewa language) means the cell is colored black and '`B`' ("biancu" in Corsican language) means the cell is colored white.

Input

The first line contains a single integer T $(1 \leq T \leq 10^4)$ denoting the number of test cases.

The first line of each test case contains two integers n and m $(1 \leq n, m \leq 100)$ denoting the dimensions of the board.

Each of the next n lines contains m characters. The j-th character of the i-th line represents the status of the cell on the i-th row and j-th column of the board. The character is '`W`' if the cell is colored black, '`B`' if the cell is colored white, and '`?`' if the cell is uncolored.

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

Output

For each test case, output a line containing the maximum number of check patterns on the board.

In the next n lines, output the colored board in the same format as the input. The output board should satisfy the following conditions.

- It consists of only '`B`' and '`W`'.
- If a cell is already colored in the input, its color cannot be changed in the output.
- The number of check patterns equals the answer you print.

If there are multiple solutions, output any of them.

Sample Input	Sample Output
3 2 2 ?? ?? 3 3 BW? W?B ?BW 3 3 BW? W?W ?W?	1 WB BW 1 BWW WWB WBW 4 BWB WBW BWB