Code Jam to I/O for Women 2015 - Code Jam to I/O for Women

I/O Error

Problem

Our computers are so excited about the upcoming Google I/O that they've started storing their ones as capital letter Is and their zeroes as capital letter Os! For example, the character `A`, which is 65 in ASCII, would normally be stored as the byte `01000001`, but our computers are storing it as `OIOOOOOI`.

Given a string of 8-character "bytes" consisting of `I`s and `O`s, can you translate it using ASCII? Every "byte" is guaranteed to translate to a printable character (a decimal value between 32 and 126, inclusive). Note that one of these characters (the one with decimal value 32) is a space. No translated message will begin or end with a space, but there may be internal space characters.

Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow; each consists of two lines. The first line of each test case contains an integer representing the number **B** of "bytes" in the string to be translated. The second line of each test case contains 8 * **B** characters, all of which are either `I` or `O`.

Output

For each test case, output one line containing "Case #x: y", where x is the test case number (starting from 1) and y is the translated message.

Limits

Small dataset (Test set 1 - Visible)

1 ≤ **T** ≤ 100.
Time limit: 20 seconds.
Memory limit: 1 GB.
1 ≤ **B** ≤ 1000.

Sample

Input

```
2
2
OIOOIIIIOIOOIOII
21
OIOOIOOIOOIOOOOOOOIOOIIIOOIIIIOOOOIIOOIIOOIOOIIIOOIOOOOOOOIOOOIOOIOOOOIIOOIIOOOOOIIOOIOOOOIIOOIIOOIOOOOOOIOC
```

Output

```
Case #1: OK
Case #2: I '<3' "C0d3 J4m"! :)
```