## Hidden Password

You are given two alphanumeric ASCII strings. An ancient manuscript says those strings contain a hidden password. Decode it!

The first string may be grouped into tuples of six characters each. For each such 6-tuple, taking from the $i$-th character (start counting from 0 ) the $i$-th bit of its ASCII code gives you a number (call it $a$ ), and likewise taking the $((i+3)$ mod 6$)$-th bits gives you another number (call it $b$ ).

These two numbers tell you about the next two characters to be included in the password, namely the $a$-th and the $b$-th character from the second string (count starting from 0 as usual).

## Input

First, you are given $t(t<100)$ - the number of test cases.
Each of the test cases starts with one number $n(n<100)$ - the number of 6 -tuples in the first string, followed by the two strings in separate lines (please have a look at the example to see the correct format). The second string is 64 characters long.

Successive test cases are separated by an empty line.

## Output

For each of the test cases, output its hidden password in a separate line.

## Example

## Input:

2
2
qwe345 ff3Arg
XSBSRasdew9873465hkldsfsalndfvnfq489uqovkLKJHaeDaae555Sk5asdpASD

3
2S4J5K 111111 Irtb2A
isimgsow45ipfgisd56wfgngdfcdkgc7kKKKkuuJJgfstdygQdWORQADFSLKF2K8
Output:
keep
coding

## Explanation

Let us have a look at the first 6-tuple: qwe345.
char. ASCII code
q $113=01110001 \mathrm{~B}$
w $119=01110111 \mathrm{~B}$
e 101 = 01100101B
$3 \quad 51=00110011 \mathrm{~B}$
$4 \quad 52=00110100 \mathrm{~B}$
$553=00110101 \mathrm{~B}$
$a$ (blue bits) $=110111 \mathrm{~B}=55$
$b($ red bits $)=101110 B=46$

