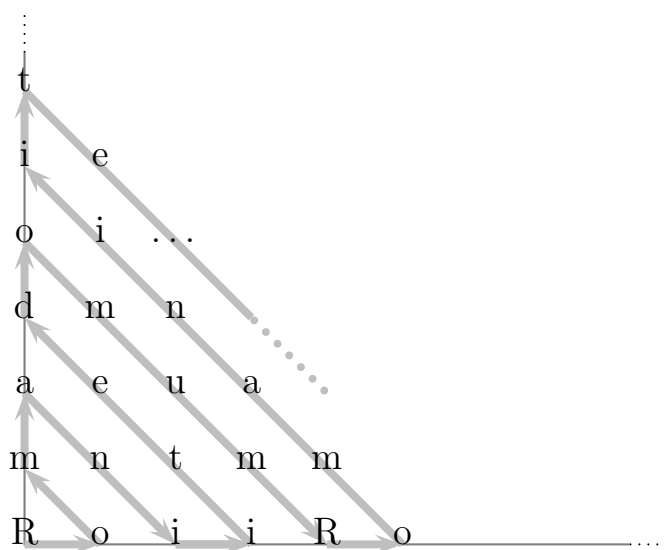


Romans Go Home!

To protest the Roman occupation, Brian writes *Romanes eunt domus* on a wall. A centurion notices the bad Latin of his graffito and therefore scolds Brian and punishes him to write the correct sentence *Romani ite domum* on a large wall *ad infinitum*!

Despite missing the irony of the situation, the centurion is quite ingenious, and goes on to tell Brian how to fill a whole infinite wall by repeating a sentence along a curve that spans every position on the wall. The wall is infinite in one direction and in height, but it does have a starting lower corner. So, the centurion instructs Brian to start at that corner, then move to the right, then move diagonally up and to the left until the vertical edge of the wall, then move up by one position, then diagonally down and to the right until the bottom of the wall, then at the bottom move one position to the right, and back up and to the left diagonally, and so on.



To make sure that Brian has done his work, the centurion will test Brian by asking him to read the letter in a given position on the wall. You must help Brian come up with a correct answer for the centurion.

Input

The first line contains the number T ($1 \leq T \leq 1000$) of tests given by the centurion. For each test, the input consists of two lines: the first line contains the phrase that the centurion wants Brian to write on the infinite wall. This phrase is a string of at most 1000 letters, without spaces or punctuation characters. The second line of the test contains two positive numbers c and r , separated by a space, with $1 \leq c, r \leq 10^9$, that indicate the column and row that determine the position on the wall indicated by the centurion. The left-most column corresponds to $c = 1$, and the bottom row corresponds to $r = 1$.

Output

For each test i , print a line containing the character on row r_i and column c_i (and nothing else).

Examples

Sample input 1

```
2
Romaniitedomum
4 3
Romaniitedomum
2 5
```

Sample output 1

```
a
i
```

Limits

Time limit is 1 second.

Memory limit is 256 megabytes.