There are n people (excluding myself) in my 30th birthday party. They sing the traditional "happy birthday" song:

Happy birthday to you! *Happy birthday to you*! *Happy birthday to Rujia*! *Happy birthday to you*!!!

Since I love music, I want to hear something more interesting, not that everyone sings together. Ah yes, I want one person to sing one word!

For example, there are three people: Mom, Dad, Girlfriend, I'd like them to sing like this:

```
Mom: Happy
Dad: birthday
Girlfriend: to
Mom: you
Dad: Happy
Girlfriend: birthday
Mom: to
Dad: you
Girlfriend: Happy
Mom: birthday
Dad: to
Girlfriend: Rujia
Mom: Happy
Dad: birthday
Girlfriend: to
Mom: you
```

Very nice, right? What if there are more than 16 people? That's easy: repeat the song until everyone has sung at least once :)

Please, don't stop in the middle of the song.

Input

There is only one test case. The first line contains a single integer n ($1 \leq n \leq 100$). Then each of the next n lines contains a capitalized name (i.e. one upper-case letter followed by zero or more lowercase letters). Each name contains at most 100 characters and do not have whitespace characters inside.

Output

Output the song, formatted as above.

Sample Input

```
3
Mom
Dad
Girlfriend
```

Sample Output

```
Mom: Happy
Dad: birthday
Girlfriend: to
Mom: you
Dad: Happy
Girlfriend: birthday
Mom: to
Dad: you
Girlfriend: Happy
Mom: birthday
Dad: to
Girlfriend: Rujia
Mom: Happy
Dad: birthday
Girlfriend: to
Mom: you
```