
Animal Friends

X31418_en

There are a number of animals who are friends with each other. Help them keep track of who is friends with who. Each animal has a name and a species among the four types "elephant", "frog", "cat", or undefined.

Input

The input starts with an integer N denoting the number of animals. The next N lines are on the format "<animal type> <animal name>", where <animal type> is the type of the animal (Elephant, Frog, Cat or Animal) and <animal name> is the name of the animal.

The next line has an integer K denoting the number of pairs of animals who are friends with each other. The next K lines are on the format "<name 1>-<name 2>", where <name 1> and <name 2> are the names of the two animals who are friends.

Output

For each animal in the order they appear in the input, print two lines:

```
X is of the species Y
X is friends with AA, BB, CC, ...
```

All placeholders (X, Y, AA, BB, CC) should be replaced with the appropriate name or species (see the sample output for an example).

Sample input

```
4
Animal Pikatxu
Elephant Jumbo
Frog Kermit
Cat Puss in Boots
3
Pikatxu-Jumbo
Pikatxu-Kermit
Kermit-Puss in Boots
```

Sample output

```
Pikatxu is of the species ...undefined...
Pikatxu is friends with Jumbo, Kermit
Jumbo is of the species elephant
Jumbo is friends with Pikatxu
Kermit is of the species frog
Kermit is friends with Pikatxu, Puss in Boots
Puss in Boots is of the species cat
Puss in Boots is friends with Kermit
```

Problem information

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