

Green Cars

Alice is from Europe, Bob is from North America. They both like to boast about how green the cars produced in their respective continents are. However, comparing the fuel-efficiency of cars is not as easy as it seems. While Alice knows how many liters of fuel a European car consumes for one hundred kilometers, Bob is aware of the miles an American car can travel using one gallon of fuel.

Help Alice and Bob.

Remember that 1 mile is approximately 1.609 kilometers and 1 gallon is approximately 3.785 liters.

Input

The first line of the input contains an integer n with $1 \leq n \leq 1000$. Each of the next n lines contains a string s that is either `Alice` or `Bob`, a string t that is the name of the car, and a floating point number c that is the fuel consumption of the car. If s is equal to `Alice`, then c is the fuel consumption in liters per 100km. If s is equal to `Bob`, then c is in miles per gallon.

Output

The output consists of n lines, containing the names of the cars stated by Alice and Bob, sorted by fuel efficiency, with the “greenest” car first. When two or more cars have the same fuel efficiency, the names must be printed in alphabetical order.

Examples

Sample input 1

```
4
Alice BMW 7.4
Bob Chevrolet 17.5
Bob Ford 32.7
Alice Renault 5.2
```

Sample output 1

```
Renault
Ford
BMW
Chevrolet
```

Limits

Time limit is 1 seconds.

Memory limit is 256 megabytes.