

SKY x PURBLE PLACE



Description

When Langit was a child, she loved to play Purble Place every day until she memorizes the order of the cake process. It starts from the cake base first, then creams and the last one is toppings. Now, she has already opened her own bakery named "SKY CAKES". However, her customers are kinda weird, the ordered custom cake is not well-sorted and they want the result cake to be sorted lexicographically. You as a prodigy programmer will help Langit to make a program for her bakery!

Input Format

- The first line contains the number of testcases which is **T**.
- The next **T** lines contain **ID (int)** which is the ID of the cake layers and **L (string)** which is the cake layer's flavours.
 - **1** means **Cake base**
 - **2** means **Cream**
 - **3** means **Topping**

Output Format

- Print the sorted order of the cake result based on the lexicographical order starting from the first letter and so on.

Constraints

- $0 < T, ID \leq 100$
- $1 \leq L \leq 100$ (the string has no space)

Example 1

Input

```
6
1 Chocolate
2 Tiramisu
3 Smiley
1 Vanilla
2 Strawberry
3 Oreo
```

Output
Cake base: Chocolate Cake base: Vanilla Cream: Strawberry Cream: Tiramisu Topping: Oreo Topping: Smiley
Explanation
For the cake base, Chocolate is the first one because C letter comes first before V from Vanilla. Then for the cream, S for Strawberry comes first before T from Tiramisu. Last but not least, O from Oreo comes first before S from Smiley.

Example 2

Input
4 3 Cheese 1 Lemon 2 Matcha 1 Ovomaltine
Output
Cake base: Lemon Cake base: Ovomaltine Cream: Matcha Topping: Cheese
Explanation
For the output, it has to be started from the Cake base, Cream then Topping even though the input is random. L from Lemon comes first before O from Ovomaltine, so it is put as the first cake base.