Problem 4 – Hit List

One final task for Sam before he gets to go home... Data mining!

Sam will receive info about one or several people in the format

- "**{name}={key}:{value};{key}:{value};…**".

The goal here is to **group** the info for every person by their **name**. If a **key** is received **multiple times**, keep **only the most recent value**.

On the last line, you will receive "**Kill {name}**". Your task is to find all the info on that name and print it, **ordered alphabetically by key**.

Then, Sam needs to build a so-called **info index** on them. The **info index** is comprised of the **sum** of all the **keys' lengths** and **values' lengths** of that person's info.

If the **info index** is **larger or equal to** the **target info index** (given on the **first line** of input), print "**Proceed**". Otherwise, print "**Need {infoNeeded} more info.**".

Input

- On the **first line**, you will receive the **target info index**, an **integer** in the **range [25-90]**
- Until you receive the text "**end transmissions**", **keep reading new lines** with information.
- On the final line, you will receive "**Kill {name}**"

Output

- On the first line, print "**Info on {name}:**".
- On the next lines, print "**---{info}: {value}**"
- On the next line, print "**Info index: {infoIndex}**" with the **info index** of the selected person.
- On the final line, print either "**Proceed**" or "**Need {infoNeeded} more info.**", depending on whether the info is **enough** to carry out the hit or not.

Constraints

- There will **always** be at least **one** name in the input.
- Each name will **always** have **one or several key/value** pairs associated with it.

Examples

Input	Output
30 Kobin=age:20;salary:700 Grimsdottir=salary:5000 Kobin=education:High School end transmissions Kill Kobin	Info on Kobin: ---age: 20 ---education: High School ---salary: 700 Info index: 34 Proceed
20 Lambert=age:57;salary:7000 Grimsdottir=salary:5000 John=salary:1550 John=lastName:Smith John=salary:1800 Kobin=education:High School end transmissions Kill Lambert	Info on Lambert: ---age: 57 ---salary: 7000 Info index: 15 Need 5 more info.
25 Bill=salary:900;lastName:Billov Kobin=salary:1300 Kobin=education:High School end transmissions Kill Bill	Info on Bill: ---lastName: Billov ---salary: 900 Info index: 23 Need 2 more info.

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