Problem 4 – Firefighting organization

You are Chief at the Fire Department. Your job is to manage your firefighting group, and save as many lives as possible. You will be given a **number of firefighters**, and after that you will receive a sequence of lines, until you receive as input "rain", which extinguishes all fires.

Each line of input contains a **string containing letters** representing the people in a burning building. **Each letter corresponds to a type of person**.

Person types:

K – Kid, **A** – Adult, **S** – Senior

Your highest priority should always be **Kids**, followed by **Adults** and your lowest priority should be **Seniors.** That means that you are going to save all the **kids** first(if you have enough firefighters), then if you have free firefighters you will start saving the **adults**, and finally if you still have firefighters, you can start saving **seniors**. If you run out of firefighters you should immediately stop saving people and move on to the next **alert**.

Input

The input data should be read from the console.

- On the **first line** you will be given an integer number **p** specifying the **number of firefighters**.
- On the next **lines** you will receive strings containing **random amount of letters,** representing the people in the current building, until you receive a line with the string "rain", which determines the end of the input.

Output

The output should be printed on the console. It should consist of exactly 3 lines:

- The first line should hold the **number of kids saved** in the following format :
  {Kids: **[number of kids saved]**}
- The second line should hold the **number of adults saved** in the following format :
  {Adults: **[number of adults saved]**}
- The third line should hold the **number of seniors saved** in the following format :
  {Seniors: **[number of seniors saved]**}

Constraints

- The number **p** will be an integer in the range [0 … 20].
- The count of input strings will be in the range [0…50].
- The letter sequence will always contain the letters **'K', 'A', 'S'**.
- Allowed working time for your program: 0.25 seconds.
- Allowed memory: 16 MB.

Examples

Input	Output	Comments
5 SSAKA KSA KKK SSKASAAKSA AKKKS rain	Kids: 10 Adults: 7 Seniors: 4	You have **5 firefighters** to work with. 5 firefighters are enough to save everyone from the buildings except one. For the building with most people in it you should get the **kids first(2 kids at total),** then you can only take **3** of the remaining people. You start taking adults until you run out of firefighters. After all the input has been processed the "rain" command has been entered and the input has ended. Then you print the output (saved people) in the way it was described above.

Input	Output	Input	Output
3 SKSKSKSKSK AKS SSA AKS KAKSKKASS KKAAS AAAAAAAAAA SSAKA AAA rain	Kids: 11 Adults: 12 Seniors: 4	4 AASASKSSSS ASA KASSKAA rain	Kids: 3 Adults: 7 Seniors: 1