Stage: Agausscrab

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Solve this problem in ??:?? or less to obtain A Gaussian Crab!

— Animal Crew

The infamous problem setting group "Animal Crew" has just prepared a problemset for the "Unicorn Cupola", which will be the newest stage of this competition. The UniCup Committee just got the list of the names of the problem setters and the number of problems that each of them set. They decided to name this stage using the following rule:

- Assume there are n problem setters. The name of the i-th problem setter is a string s_i consisting of several lowercase Latin letters, and the number of problems set by this person is a_i.
- The Committee first calculates the rank of each problem setter. The rank of the i-th problem setter r_i is defined as one plus the number of people who set **strictly more** problems than this person.
- From problem setter 1 to problem setter n, remove the last r_i characters of the i-th problem setter's name and concatenate them all together to form a string t. If the i-th problem setter's name has no more than r_i characters, then all the characters will be removed.
- Finally, capitalize the first character of t, and this will be the name of the stage.

You can see the Notes section for further explanation.

Input

The first line contains an integer n ($1 \le n \le 1000$), denoting the number of test cases.

The i-th line contains a string s_i ($2 \le |s_i| \le 20$) and an integer a_i ($1 \le a_i \le 10$), denoting the name of the i-th problem setter and the number of problems he/she set.

Output

Output a string "`Stage:`" as the beginning, then output a space, and finally output the name of the competition. The strings should be output in one line.

Examples

standard input	standard output
4 arcos 2 gausr 5 scrail 3 bei 3	Stage: Agausscrab
4 zhe 1 jiang 3 sheng 5 sai 2	Stage: Jiashen

Note

In the first example, there are 4 problem setters, and they set $a_1 = 2, a_2 = 5, a_3 = 3, a_4 = 3$ problems, then the ranks of them are $r_1 = 4, r_2 = 1, r_3 = 2, r_4 = 2$.

After removing the last $r_1 = 4$ characters from s_1, the resulting string is "a".

After removing the last $r_2 = 1$ characters from s_2, the resulting string is "gaus".

After removing the last $r_3 = 2$ characters from s_3, the resulting string is "scra".

After removing the last $r_4 = 2$ characters from s_4, the resulting string is "b".

The string t is the concatenation of the resulting strings, "agausscrab". After the final step, we can obtain the name of the stage — "Agausscrab".

You should output "`Stage: Agausscrab`" as the answer.

In the second example, after removal, the first and the last string become empty strings.