

B. Hard Work

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

After the contest in comparing numbers, Shapur's teacher found out that he is a real genius and that no one could possibly do the calculations faster than him even using a super computer!

Some days before the contest, the teacher took a very simple-looking exam and all his n students took part in the exam. The teacher gave them 3 strings and asked them to concatenate them. Concatenating strings means to put them in some arbitrary order one after the other. For example from concatenating `Alireza` and `Amir` we can get to `Alirez`
`aAmir` or `AmirAlireza` depending on the order of concatenation.

Unfortunately enough, the teacher forgot to ask students to concatenate their strings in a pre-defined order so each student did it the way he/she liked.

Now the teacher knows that Shapur is such a fast-calculating genius boy and asks him to correct the students' papers.

Shapur is not good at doing such a time-taking task. He rather likes to finish up with it as soon as possible and take his time to solve 3-SAT in polynomial time. Moreover, the teacher has given some advice that Shapur has to follow. Here's what the teacher said:

- As I expect you know, the strings I gave to my students (including you) contained only lowercase and uppercase Persian Mikhi-Script letters. These letters are too much like Latin letters, so to make your task much harder I converted all the initial strings and all of the students' answers to Latin.
- As latin alphabet has much less characters than Mikhi-Script, I added three odd-looking characters to the answers, these include "-", ";" and "_". These characters are my own invention of course! And I call them Signs.
- The length of all initial strings was less than or equal to 100 and the lengths of my students' answers are less than or equal to 600
- My son, not all students are genius as you are. It is quite possible that they make minor mistakes changing case of some characters. For example they may write `ALiReZaAmIR` instead of `AlirezaAmir`. Don't be picky and ignore these mistakes.
- Those signs which I previously talked to you about are not important. You can ignore them, since many students are in the mood for adding extra signs or forgetting about a sign. So something like `Iran; ; --` is the same as `--; IR`
`AN`
- You should indicate for any of my students if his answer was right or wrong. Do this by writing "WA" for Wrong answer or "ACC" for a correct answer.
- I should remind you that none of the strings (initial strings or answers) are empty.
- Finally, do these as soon as possible. You have less than 2 hours to complete this.

Input

The first three lines contain a string each. These are the initial strings. They consists only of lowercase and uppercase Latin letters and signs ("-", ";" and "_"). All the initial strings have length from 1 to 100, inclusively.

In the fourth line there is a single integer n ($0 \leq n \leq 1000$), the number of students.

Next n lines contain a student's answer each. It is guaranteed that the answer meets what the teacher said. Each answer iconsists only of lowercase and uppercase Latin letters and signs ("-", ";" and "_"). Length is from 1 to 600, inclusively.

Output

For each student write in a different line. Print "WA" if his answer is wrong or "ACC" if his answer is OK.

Examples

input
Iran_ Persian; W_o;n;d;e;r;f;u;l; 7 WonderfulPersianIran wonderful_PersIAN_IRAN;;_ WONDERFUL__IRAN__PERSIAN__;; Ira__Persiann__Wonderful Wonder;;;fulPersian__;I;r;a;n; ____IranPersianWonderful_____ PersianIran_is_Wonderful
output
ACC ACC ACC WA ACC ACC WA

input
Shapur;; is____ a_genius 3 Shapur__a_is__geniUs is__shapur__a__Genius; Shapur;;is;;a;;geni;;us;;
output
WA ACC ACC