Problem A

Considerate Grading

Time limit: 2 seconds

Komputa is a private university located in southeast Maung, a developing country. Due to limited number of lecturers, each lecturer at Komputa is required to teach about 300 students weekly. Lim, a new lecturer on that university, was graduated from Technology University, a prestigious university with the best Computing degree at Maung. Knowing the condition at Komputa, he has an idea to automate essay grading. Such mechanism is expected to reduce lecturer's burden. Each lecturer is only required to provide an expected answer essay and then proposed system will check whether student's essay shares similar meaning with the aforementioned essay or not. Due to the nature of natural language, it is impossible for student to generate an essay that is exactly similar as the lecturer'. Hence, instead of applying exact matching, he uses approximate matching. Two essays are still considered similar to each other even though some words are swapped.

Input

You, as one of his brightest student, is asked to develop a prototype of Lim's idea. You are required to create a program accepting two lines of essays where the number of words for each essay should be inputted before the essay. Each essay can have one hundred and thousand words on it, separated by space. Punctuation is considered as a part of word as long as it is merged with alphanumeric.

Output

The program will only produce either "matched" or "mismatched" as its result.

Sample input 1:	Sample input 3:
10	10
I have 2 balloons. one is red ,one is blue	I have 2 balloons. one is red ,one is blue
10	10
I have 2 balloons. one is blue ,one is red	I have 3 balloons. one is blue ,one is red
Sample output 1:	**Sample output 3:**
matched	mismatched
Sample input 2:	**Sample input 4:**
5	8
this is a ridiculous example	maung is a country komputa is a university
3	8
of mismatched essays	komputa is a university maung is a country
Sample output 2:	**Sample output 4:**
mismatched	matched