

MModal Interview Question
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Part One: Reverse Word

In this question, we have to divide the input string into words and then reverse the order of them, and the delimiter is white space. My solution can be divided into two steps:

1. String pre-processing

- The origin string should be trimmed to eliminate heading and trailing white spaces.

input = input.trim();

- The origin string should be separated into different word by spaces.

String[] words = input.split(" ");

2. Generating result

- I use StringBuffer to store my result, since the result will be modified when we traversing the words we split in previous step.

StringBuffer result = new StringBuffer();

- Every word will be inserted into the head of result string with a space. This step lets the words concat in reverse order.

result.insert(0, " " + words[i]);

- In the end, we have to delete the redundant space in the result (the heading space).

result.deleteCharAt(0);

Part Two: QA Reverse Word

In QA, in addition to normal case, e.g. "foo bar baz", we also have to consider some corner cases, e.g. empty string, single space or string contains heading and trailing space.

I used Junit to finish my testing. The following cases are my consideration for testing this problem.

1. Given Example - "foo bar baz"
2. Empty String - ""
3. Single Space - " "
4. Single word - "word"
5. Single Character - "a"
6. String consists of multiple characters - "a b c d "
7. String contains internal consecutive spaces - "I am a programmer."
8. String contains leading and trailing spaces - " I am a programmer. "

My program in Part One can pass all above test cases w/o error.