

# Recursive!!!

## Description

Please write a program to read the source code as input. Your program should have this two functionality:

(1) To identify token which defined in Table 1

(2) To check input(source code) have follow the grammar rule as belong or not.

**Hint:** You should implement two phase of compiler, first is scanner and second is parser. (if you guys don't know why, see you in 2019.....)

▼ Table 1 Token Definition

Terminal	Regular Expression	▼ Grammar rule
id	[a-z]	
assign	=	
inum	[0-9]+	

▼ Grammar rule

1. Procs  $\rightarrow$  Val \$
2. Val  $\rightarrow$  id assign Val
3. | inum

## Input Format

The input is an string sequence, it must have a space character in any two continuous string.

The length of input sequence is less than one thousand character.

The character of each string is less than ten.

## Output Format

Your task is to check input sequence is valid or not. If input sequence can't passed Scanner phase, it should not go into Parser phase.

- If the source code can pass both scanner and parser phase, please print **TA is handsome.** (and a new line character)
- If the input doesn't match token definition, please print **Token mismatch.** (and a new line character)
- If the input doesn't match grammar rule, please print **Grammar mismatch.** (and a new line character)

<p><b>Sample Input</b></p> <p>a = b = 70</p> <p><b>Sample Output</b></p> <p>TA is handsome.↵</p>	<p><b>Sample Input</b></p> <p>a = 70 = b</p> <p><b>Sample Output</b></p> <p>Grammar mismatch.↵</p>
<p><b>Sample Input</b></p> <p>aa = 70</p> <p><b>Sample Output</b></p> <p>Token mismatch.↵</p>	

這一題每個字之間都有空白，不必用 getline 讀一整行再去切割，可以參考以下方法

<pre>C char str[???]; while(~scanf("%s", str)) {     //do something }</pre>	<pre>C++ while(!cin.eof()) {     string str;     cin&gt;&gt;str;     //do something }</pre>
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