

Please write a program to read a program source from **stdin** following the token definition and grammar rule at right.

If **Yes**, print each **token's type** and **the string of token** separated by a **whitespace " "** and end with a **newline**.

If **No**, print only **"invalid input"** with a **newline**. (*don't output any token!*)

Your program has to check the source whether it follows the token and grammar rules or not.

| Termainl | Regular Expression |
|-----------|------------------------|
| ID | [A-Za-z_][A-Za-z0-9_]* |
| STRLIT | "[^"]*" |
| LBR | \(|
| RBR | \) |
| Dot | \. |
| SEMICOLON | ; |

Productions

- 1 program → stmts
- 2 stmts → stmt stmts
- 3 stmts → λ
- 4 stmt → exp SEMICOLON
- 5 exp → primary
- 6 exp → STRLIT
- 7 exp → λ
- 8 primary → ID primary_tail
- 9 primary_tail → DOT ID primary_tail
- 10 primary_tail → LBR exp RBR primary_tail
- 11 primary_tail → λ

Sample Input 1

"test_string";

Test_ID;

Sample Output 1

STRLIT " test_string "

SEMICOLON ;

ID Test_ID

SEMICOLON ;

Sample Input 2

illiga!id;

Sample Output 2

invalid input

Sample Input 3

Str. length();

Sample Output 3

ID Str

DOT .

ID length

LBR (

RBR)

SEMICOLON ;

Sample Input 4

printf("HelloWorld");

Sample Output 4

ID printf

LBR (

STRLIT " HelloWorld "

RBR)
SEMICOLON ;