

ParserTest

Description

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** seperated 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.

※請使用 **Recursive-Decent-Parsing (ch02 ppt page 20 begin)** 的模式來撰寫程式，否則將不予計分。

※測試檔案的換行皆為 **\n**

Terminal	Regular Expression
ID	[A-Za-z_][A-Za-z0-9_]*
STRLIT	"[^\"]*"
LBR	\(
RBR	\)
DOT	\.

Productions

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

<p>Sample Input</p> <p>"test_string" Test_ID</p> <p>Sample Output</p> <p>STRLIT " test_string " ID Test_ID</p>	<p>Sample Input</p> <p>illiga!id</p> <p>Sample Output</p> <p>invalid input</p>
<p>Sample Input</p> <p>Str. length()</p> <p>Sample Output</p> <p>ID Str DOT . ID length LBR (RBR)</p>	<p>Sample Input</p> <p>printf("HelloWorld")</p> <p>Sample Output</p> <p>ID printf LBR (STRLIT " HelloWorld " RBR)</p>