Homework1

Demo:

lex Assignment1.l

cc lex.yy.c –o HW1 -ll

./HW1 <input.txt

Basic features:

1. Print out the recognized token.

|  |  |
| --- | --- |
| 1. , | , COMMA |
| 1. ; | ; SEMICOLON |
| 1. ( | ( LB |
| 1. ) | ) RB |
| 1. “ | “ QUOTATION |
| 1. + - \* / | [ ] OPERATOR |
| 1. “this is string” | this is string STRING |
| 1. % | % REMAINDER |
| 1. ^ | ^ EXPONENTATION |
| 1. > < >= <= == != | [ ] RELATIONAL |
| 1. = | = ASSIGN |
| 1. id | [id] ID |
| 1. print | print PRINT FUNCTION |
| 1. while | while WHILE FUNCTION |
| 1. for | for FOR FUNCTION |
| 1. if | if IF FUNCTION |
| 1. else | else ELSE FUNCTION |
| 1. number.number | [ ] FLOATNUMBER |
| 1. number | [ ] NUMBER |

1. Print out “Create a symbol table”, when scanning the first id token.
2. Print out “Insert a symbol:[ID]”, whenever scanning the id token which is not in the symbol table.
3. Print out whole symbol table with index, id name, and its type, when scanning finish.
4. Print out the number of lines.

Advanced features:

1. Allow case-insensitive keywords.
2. for,For,FOr,FoR,fOR,FOR,fOr,foR
3. if,If,iF,IF
4. else,Else,eLse,elSe,elsE,…
5. while,While,While,WhIle,WhiLe,WhilE,...
6. int,Int,iNt,inT,INt,InT,iNT,INT
7. double,DOUBLE
8. Print out contents of comments.

|  |  |
| --- | --- |
| 1. //this is comments | //this is comments COMMENT1 |
| 1. /\* this is comments\*/ | /\* this is comments\*/ COMMENT2 |