**LEX源代码**

**%{**

**#include <ctype.h>**

**#include <stdio.h>**

**#include <string.h>**

**#include <stdlib.h>**

**void comment();**

**int lineno=1;**

**int wcount=0;**

**int ccount=0;**

**int er=1,ec=1,ec1=1;**

**%}**

**letter[A-Za-z]**

**digit[0-9]**

**id({letter}|\_)({letter}|{digit}|\_)\***

**error\_id({digit})+({letter})+**

**num{digit}+(\.{digit}+)?(E[+\-]?{digit}+)?**

**whitespace[ ]**

**space [\t]**

**enter[\n]**

**%%**

**"include"|"main"|"int"|"float"|"double"|"char"|"long"|"bool"|"short"|"if"|"else"|"for"|"while"|"do"|"struct"|"typedef"|"const"|"default"|"return"|"case"|"switch"|"break"|"continue"|"enum"|"goto"|"sizeof"|"static"|"void"|"union"|"unsigned"|"signed"|"volatil" {ec=ec+yyleng;**

**Upper(yytext,yyleng);**

**printf("%d 行 ",lineno);**

**printf("%s reserved word\n",yytext);}**

**{num} {ccount=ccount+yyleng;ec=ec+yyleng;wcount++;printf("%d 行 ",lineno);**

**printf("%s NUM\n",yytext);}**

**"<"|">"|"="|">="|"<="|"=="|"!="**

**{ec=ec+yyleng; ccount=ccount+yyleng; wcount++;**

**printf("%d 行 ",lineno);**

**printf("%s relop operator\n",yytext);}**

**"&"|"||"|"!" {ec=ec+yyleng;c count=ccount+yyleng; wcount++;**

**printf("%d 行 ",lineno);**

**printf("%s logic operator\n",yytext);}**

**"+"|"-"|"\*"|"/" {ec=ec+1; ccount++; wcount++;**

**printf("%d 行 ",lineno);**

**printf("%s arithmetic operator\n",yytext);}**

**","|";" {ec++; ccount++;**

**printf("%d 行 ",lineno);**

**printf("%s punctuation mark\n",yytext);}**

**"("|")"|"{"|"}"|"#"|"."|"%"|"\\"|"["|"]"|"\""**

**{ec=ec+yyleng; ccount=ccount+yyleng;**

**printf("%d 行 ",lineno); printf("%s special symbol\n",yytext);}**

**"/\*"**

**{printf("%d 行 ",lineno);**

**printf("/\*");comment();printf(" comment statement\n");}**

**{id} {ccount=ccount+yyleng; wcount++; ec=ec+yyleng;**

**printf("%d 行 ",lineno);**

**printf("%s ID\n",yytext);}**

**{error\_id} { ec=ec+yyleng; wcount++; ccount=ccount+yyleng;**

**printf("%d 行 ",lineno); er=lineno;**

**printf("error: %s\n",yytext);**

**ec1=ec-yyleng;**

**printf("line:%d,col:%d\n",er,ec1);}**

**{whitespace} {ec=ec+1;}**

**{space} {ec=ec+8;}**

**{enter} {lineno++; ec=1;}**

**%%**

**Upper(char \*s,int l)**

**{ int i;**

**ccount=ccount+l;**

**wcount=wcount+1;**

**for(i=0;i<l;i++){s[i]=toupper(s[i]); }**

**}**

**void comment()**

**{**

**char ch=input();**

**while (ch!='\*')**

**{**

**printf("%c",ch);**

**ch=input();**

**}**

**while(ch!='/')**

**{**

**printf("%c",ch);**

**ch=input();**

**}**

**printf("/");**

**return;**

**}**

**main(void)**

**{**

**printf("开始词法分析： \n");**

**yylex();**

**lineno=lineno-1;**

**printf("Line:%d\n",lineno);**

**printf("word count:%d\n",wcount);**

**printf("char count:%d\n",ccount);**

**return 258;**

**}**