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S7 CSA

ROLL NO: 4

#include<stdio.h>

#include<string.h>

#include<stdlib.h>

#include <stdbool.h>

#include <ctype.h>

char digit[20][20];

int digiti = 0;

char string[20][50];

int stringi = 0;

char keyword[20][10];

int keywordi = 0;

char operator[20][1];

int operatori = 0;

char punctuator[20][1];

int punctuatori = 0;

char identifier[20][10];

int identifieri = 0;

bool isValidDelimiter(char ch) {

if (ch == ' ' || ch == '+' || ch == '-' || ch == '\*' ||

ch == '/' || ch == ',' || ch == ';' || ch == '>' ||

ch == '<' || ch == '=' || ch == '(' || ch == ')' ||

ch == '[' || ch == ']' || ch == '{' || ch == '}' ||

ch == '\n' || ch == '&')

return (true);

return (false);

}

bool isKeyword(char\* str){

if (!strcmp(str,"if") || !strcmp(str,"else") || !strcmp(str,"while") ||

!strcmp(str,"do") || !strcmp(str,"break") || !strcmp(str,"continue") ||

!strcmp(str,"int") || !strcmp(str,"double") || !strcmp(str,"float") ||

!strcmp(str,"return") || !strcmp(str,"char") || !strcmp(str,"case") ||

!strcmp(str,"long") || !strcmp(str,"sizeof") || !strcmp(str,"void") ||

!strcmp(str,"switch") || !strcmp(str,"struct") || !strcmp(str,"goto") ||

!strcmp(str,"static") || !strcmp(str,"unsigned") )

return(true);

return(false);

}

bool isOperator(char ch){

if (ch == '+' || ch == '-' || ch == '\*' || ch == '/' ||

ch == '>' || ch == '<' || ch == '=' || ch == '&')

return(true);

return(false);

}

bool isPunctuator(char ch){

if (ch == ',' || ch == ';' || ch == '(' || ch == ')' ||

ch == '[' || ch == ']' || ch == '{' || ch == '}')

return(true);

return(false);

}

void readfile(char \*filename){

FILE \*fptr;

char a[50];

strcpy(a,"");

fptr = fopen(filename,"r+");

char ch = fgetc(fptr);

while(ch != EOF){

strcpy(a,"");

while(!isValidDelimiter(ch)){

if (ch == '"'){

strncat(a,&ch,1);

ch = fgetc(fptr);

while(ch != '"'){

strncat(a,&ch,1);

ch = fgetc(fptr);

}

strncat(a,&ch,1);

strcpy(string[stringi++],a);

strcpy(a,"");

break;

}

strncat(a,&ch,1);

ch = fgetc(fptr);

}

if (strcmp(a,"")){

if (isdigit(a[0])){

strcpy(digit[digiti++],a);

}

else if (!isKeyword(a))

strcpy(identifier[identifieri++],a);

}

if (isKeyword(a)){

strcpy(keyword[keywordi++],a);

}

else if (isOperator(ch)){

strncat(operator[operatori++],&ch,1);

}

else if (isPunctuator(ch)){

strncat(punctuator[punctuatori++],&ch,1);

}

ch = fgetc(fptr);

}

}

void print\_string(){

printf("LITERALS : ");

for (int i=0;i<stringi;i++){

printf("%s, ",string[i]);

}

printf("\n");

}

void print\_digit(){

printf("DIGITS : ");

for (int i=0;i<digiti;i++){

printf("%s, ",digit[i]);

}

printf("\n");

}

void print\_operator(){

printf("OPERATORS : ");

for (int i=0;i<operatori;i++){

printf("%c, ",operator[i][0]);

}

printf("\n");

}

void print\_punctuator(){

printf("PUNCTUATORS : ");

for (int i=0;i<punctuatori;i++){

printf("%c, ",punctuator[i][0]);

}

printf("\n");

}

void print\_keyword(){

printf("KEYWORDS : ");

for (int i=0;i<keywordi;i++){

printf("%s, ",keyword[i]);

}

printf("\n");

}

void print\_identifier(){

printf("IDENTIFIERS : ");

for (int i=0;i<identifieri;i++){

printf("%s, ",identifier[i]);

}

printf("\n");

}

// TOKENS

// - Keyword

// - Identifiers

// - Operator

// - Literal

// - puctuators

void main(){

char \*filename;

//printf("Enter filename : ");

// scanf("%s",filename);

readfile("sum.txt");

print\_string();

print\_digit();

print\_operator();

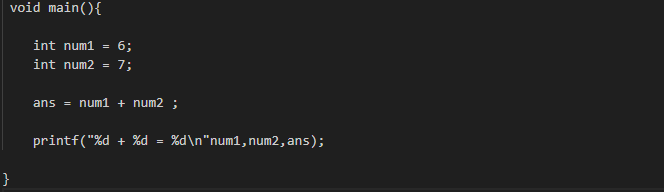
print\_keyword();

print\_punctuator();

print\_identifier();

}

**INPUT**



**OUTPUT**

