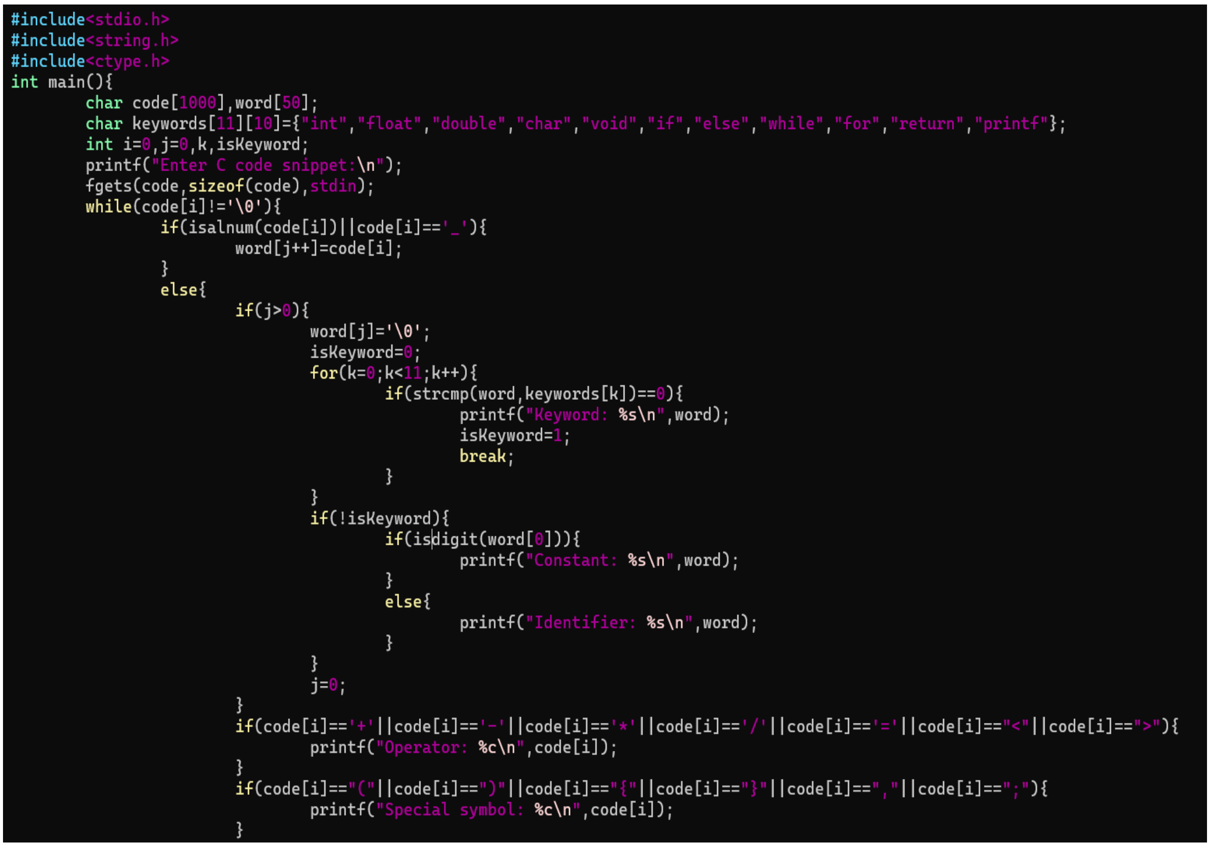
EXP NO -2

DEVELOP A C PROGRAM TO ANALYZE A GIVEN C CODE SNIPPET AND RECOGNIZE DIFFERENT TOKENS, INCLUDING KEYWORD, IDENTIFIERS, OPERATOR AND SPECIAL SYMBOLS

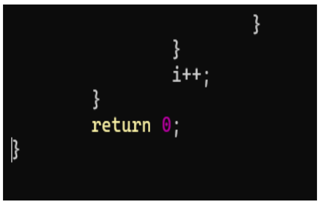
AIM:

To develop a C program that analyzes a given C code snippet and recognizes different tokens, including keywords, identifiers, operators, and special symbols.

PROGRAM: TOKEN.C

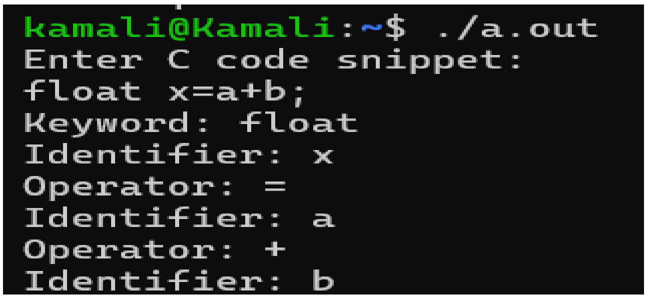


```c
#include<stdio.h>
#include<string.h>
#include<ctype.h>
int main(){
        char code[1000],word[50];
        char keywords[11][10]={"int","float","double","char","void","if","else","while","for","return","printf"};
        int i=0,j=0,k,isKeyword;
        printf("Enter C code snippet:\n");
        fgets(code,sizeof(code),stdin);
        while(code[i]!='\0'){
                if(isalnum(code[i])||code[i]=='_'){
                        word[j++]=code[i];
                }
                else{
                        if(j>0){
                                word[j]='\0';
                                isKeyword=0;
                                for(k=0;k<11;k++){
                                        if(strcmp(word,keywords[k])==0){
                                                printf("Keyword: %s\n",word);
                                                isKeyword=1;
                                                break;
                                        }
                                }
                                if(!isKeyword){
                                        if(isdigit(word[0])){
                                                printf("Constant: %s\n",word);
                                        }
                                        else{
                                                printf("Identifier: %s\n",word);
                                        }
                                }
                                j=0;
                        }
                        if(code[i]=='+'||code[i]=='-'||code[i]=='*'||code[i]=='/'||code[i]=='='||code[i]=="<"||code[i]==">"){
                                printf("Operator: %c\n",code[i]);
                        }
                        if(code[i]=="("||code[i]==")"||code[i]=="{"||code[i]=="}"||code[i]==","||code[i]==";"){
                                printf("Special symbol: %c\n",code[i]);
                        }
```



```c
                        }
                }
                i++;
        }
        return 0;
}
```

OUTPUT



```
kamali@Kamali:~$ ./a.out
Enter C code snippet:
float x=a+b;
Keyword: float
Identifier: x
Operator: =
Identifier: a
Operator: +
Identifier: b
```

RESULT :

Thus the above program reads a C code snippet, tokenizes it using space, tab, and newline as delimiters, classifies each token as a keyword, identifier, operator, or special symbol based on predefined lists, and prints the recognized tokens along with their types.

KAMALI K A - 220701118