Ex No: 1
Date:30/01/24
IMPLEMENT CODE TO RECOGNIZE TOKENS IN C

AIM:

To implement the program to identify C keywords, identifiers, operators, end statements like [], {} using C tool.

ALGORITHM:

● We identify the basic tokens in c such as keywords, numbers, variables, etc. ● Declare the required header files.

● Get the input from the user as a string and it is passed to a function for processing.

● The functions are written separately for each token and the result is returned in the form of bool either true or false to the main computation function.

● Functions are issymbol() for checking basic symbols such as () etc , isoperator() to check for operators like +, -, *, / , isidentifier() to check for variables like a,b, iskeyword() to check the 32 keywords like while etc., isInteger() to check for numbers in combinations of 0-9, isnumber() to check for digits and substring().

● Declare a function detecttokens() that is used for string manipulation and iteration then the result is returned from the functions to the main. If it's an invalid identifier error must be printed.

● Declare main function get the input from the user and pass to detecttokens()

function. **PROGRAM:**

```c
#include<stdio.h>
int main(){
    int count=0,k=0,i=0;
    char a[25];
    printf("Enter expression : ");
    fgets(a,25,stdin);
    while(a[i]!='\0'){
        if(isalpha(a[i])){
            printf("%c - identifier\n",a[i]);
        }
        else if(a[i]=='+' || a[i]=='-'||a[i]=='*'||a[i]=='/'){
            printf("%c - arithmetic operator\n",a[i]);
        }
        else if(a[i]=='='){
            printf("%c - assignment operator\n",a[i]);
        }
        else if(isdigit(a[i])){
```

```c
    char b[k];
    while(isdigit(a[i])){
        b[k++]=a[i];
        i++;
    }
    printf("%s - digit\n",b);
```
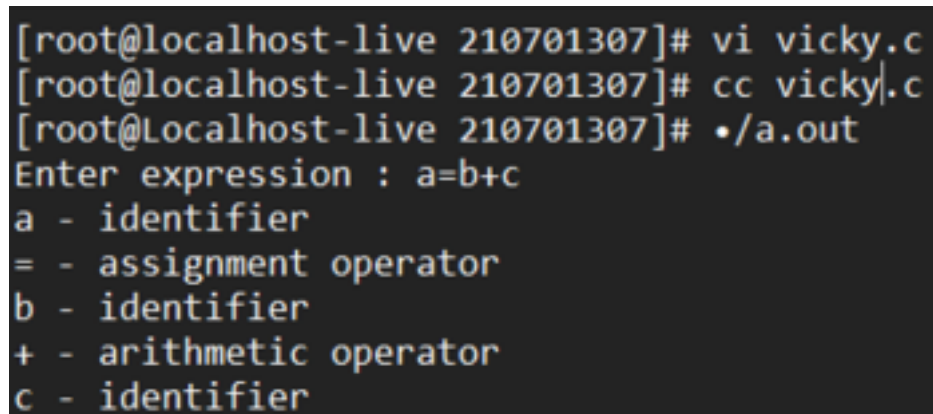
```c
    k=0;
    i=i-1;
    }
  i++;
  }
}
```

OUTPUT:

```
[root@localhost-live 210701307]# vi vicky.c
[root@localhost-live 210701307]# cc vicky.c
[root@Localhost-live 210701307]# ./a.out
Enter expression : a=b+c
a - identifier
= - assignment operator
b - identifier
+ - arithmetic operator
c - identifier
```

RESULT : To implement the program to identify C keywords, identifiers, operators, end statements like [], {} using C tool has been varifyed VIGNESHWARAN G [210701307]