Exp. No. 1

Develop a lexical Analyzer to identify identifiers, constants, operators using C program.

Program:

```
#include<stdio.h>
#include<ctype.h>
#include<string.h>
int main()
{
        int i,ic=0,m,cc=0,oc=0,j;
        char b[30],operators[30],identifiers[30],constants[30];
        printf("enter the string : ");
        scanf("%[^\n]s",&b);
        for(i=0;i<strlen(b);i++)
        {
        if(isspace(b[i]))
                {
           continue;
        }
        else if(isalpha(b[i]))
                {
        identifiers[ic] =b[i];
        ic++;
        }
        else if(isdigit(b[i]))
                {
        m=(b[i]-'0');
        i=i+1;
        while(isdigit(b[i]))
                        {
                m=m*10 + (b[i]-'0');
                i++;
        }
        i=i-1;
        constants[cc]=m;
```

```
        cc++;
        }
        else
                {
        if(b[i]=='*')
                        {
                operators[oc]='*';
                oc++;
        }
        else if(b[i]=='-')
                        {
                operators[oc]='-';
                oc++;
        }
        else if(b[i]=='+')
                        {
                operators[oc]='+';
                oc++;
        }
        else if(b[i]=='=')
                        {
                operators[oc]='=';
                oc++;
        }
                }
        }
printf(" identifiers : ");
 for(j=0;j<ic;j++)
        {
    printf("%c ",identifiers[j]);
 }
printf("\n constants : ");
 for(j=0;j<cc;j++)
        {
    printf("%d ",constants[j]);
```

```
    }
   printf("\n operators : ");
    for(j=0;j<oc;j++)
          {
      printf("%c ",operators[j]);
    }
}
```

OUTPUT: