

AIM: Write a Lex program to validate arithmetic expressions and display a separate list of the identifiers and operators.

CODE:

```
% {
#include<stdio.h>
#include<string.h>
int flag=0,i=0,j,k=0;
char operand[20][20],oparator[20][20];
% }

%%
[a-zA-Z0-9]+ {flag++; strcpy(operand[i],yytext); i++;}
[-+*/] {flag--; strcpy(oparator[k],yytext); k++;}
%%

int main(int argc, char* argv[])
{
    printf("enter an arithmetic expression\n");
    yylex();

    if(flag!=1)
        printf("Invalid expression\n");
    else
    {
        printf("Valid expression\n");

        printf("The operands are\t");
        for(j=0;j<i;j++)
            printf("%s\t",operand[j]);

        printf("\n\nThe operators are\t");
        for(j=0;j<k;j++)
            printf("%s\t",oparator[j]);

        printf("\n\n");
    }
}

int yywrap( )
{
    return 1;
}
```

OUTPUT:

```
[21012021001@linuxserv ~]$ lex pr_4.l
[21012021001@linuxserv ~]$ gcc lex.yy.c
[21012021001@linuxserv ~]$ ./a.out
enter an arithmetic expression
a-b+c*d

Valid expression
The operands are      a      b      c      d
The operators are     -      +      *
[21012021001@linuxserv pr_4]$ |
```