

PRACTICAL-5

Aim : Write a program for validation of arithmetic statement.

Code:

```
% {
#include<stdio.h>
#include<string.h>
int noprt=0, nopnd=0, valid=1, top=-1, m, l=0,i=-1, j=0;
char opnd[10][10], oprt[10][10], a[100];
% }
%%
"(" { top++; a[top]='(' ; }
"{" { top++; a[top]='{' ; }
"[" { top++; a[top]='[' ; }
")" { if(a[top]!='(')
{
valid=0;
return 0;
}
else
top--;
}
"}" { if(a[top]!='{')
{
valid=0;
return 0;
}
else
top--;
}
"]" { if(a[top]!='[')
{
valid=0;
return 0;
}
}
```

```
else
    top--;
}
"+"|"-"|"*"|"/"|"%" { noprt++;
strcpy(oprt[l], yytext);
l++;
}
[0-9]+|[a-zA-Z][a-zA-Z0-9_]* {nopnd++; strcpy(opnd[j],yytext);j++;}
%%
int yywrap()
{
return 1;
}
int main()
{
int k;
printf("Enter the expression.. at end press ^d\n");
yylex();
if(valid==1 && i==-1 && (nopnd-noprt)==1)
{
printf("The expression is valid\n");
printf("The operators are\n");
for(k=0;k<l;k++){
printf("%s\n",oprt[k]);
}
}
else
printf("The expression is invalid");
}
```

Output

```
~$ lex pra5.1
~$ cc lex.yy.c -ll
~$ ./a.out
Enter the expression.. at end press ^d
[a+b-(c%d)*{e/f}+g]

The expression is valid
The operators are
+
-
%
*
/
+
~$ █
```