Ex No: 4
Date: 05/03/24

DESIGN A DESK CALCULATOR USING LEX TOOL

AIM:

To create a calculator that performs addition, subtraction, multiplication and division using lex tool.

ALGORITHM:

- In the headers section declare the variables that is used in the program including header files if necessary.
- In the definitions section assign symbols to the function/computations we use along with REGEX expressions.
- In the rules section assign dig() function to the dig variable declared. ● In the definition section increment the values accordingly to the arithmetic functions respectively.
- In the user defined section convert the string into a number using atof() function.
- Define switch case for different computations.
- Define the main () and yywrap() function.

PROGRAM:

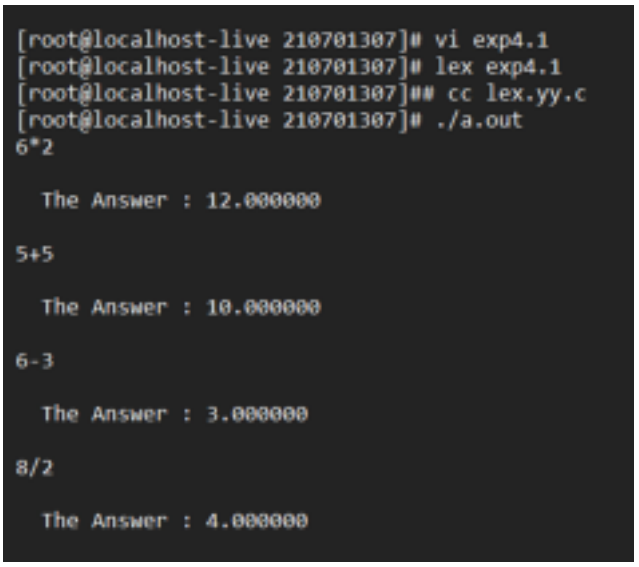
```
%{
int op = 0,i;
float a, b;
%}
dig [0-9]+|([0-9]*)"."([0-9]+)
add "+"
sub "-"
mul "*"
div "/"
pow "^"
ln \n
%%
 {dig} {digi();}
 {add} {op=1;}
```

```
 {sub} {op=2;}
 {mul} {op=3;}
 {div} {op=4;}
 {pow} {op=5;}
 {ln} {printf("\n The Answer :%f\n\n",a);}
%%
digi(){
if(op==0)
a=atof(yytext);
else{
b=atof(yytext);
```



```
 switch(op){
 case 1:a=a+b;
 break;
 case 2:a=a-b;
 break;
 case 3:a=a*b;
 break;
 case 4:a=a/b;
 break;
 case 5:for(i=a;b>1;b--)
 a=a*i;
 break;
 }
 op=0;}}
 main(int argv,char *argc[])
 {
 yylex();}
 yywrap()
 {
 return 1;
}
```

OUTPUT:



RESULT: To create a calculator that performs addition, subtraction, multiplication and division using lex tool has verifyed