Ex No: 4

Date:

DESIGN A DESK CALCULATOR USING LEX TOOL AIM:

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

ALGORITHM:

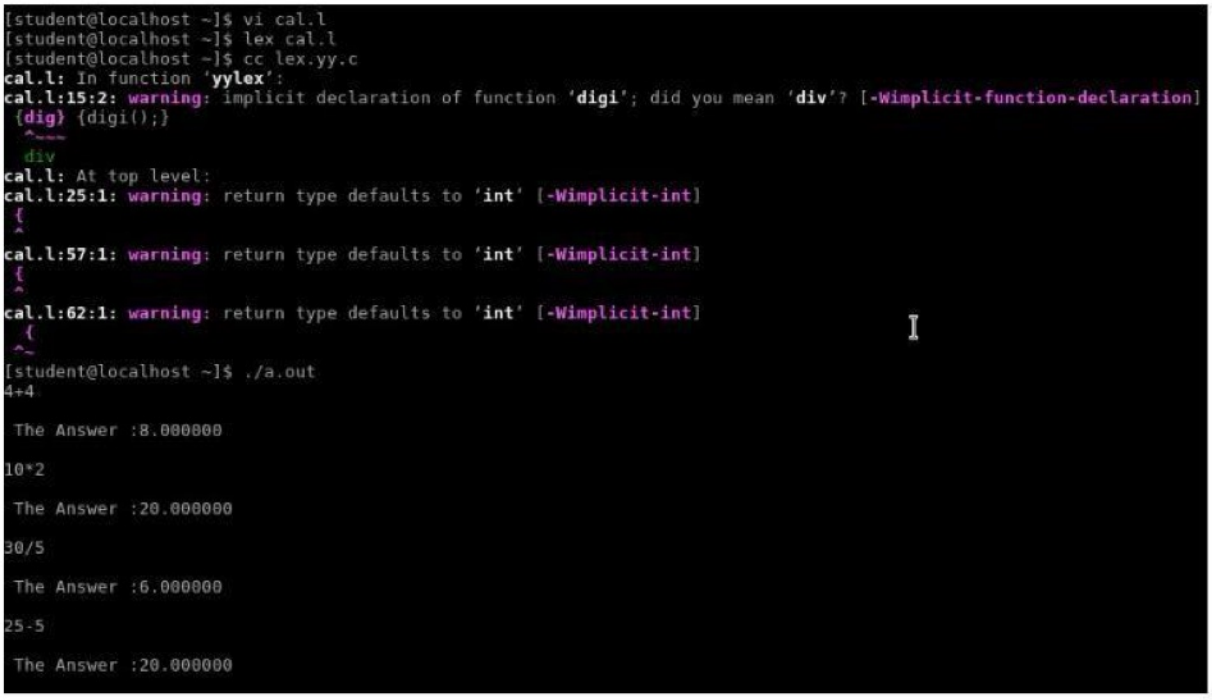
- In the headers section declare the variables that is used in the program including header files if necessary.
- In the definitions section assign symbols to the function/computations we use along with REGEX expressions. ● In the rules section assign dig() function to the dig variable declared.
- In 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: