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Date :

DESIGN A DESK CALCULATOR USING LEX

AIM:

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

ALGORITHM:

Step 1: In the headers section declare the variables that is used in the program including header files if necessary.

Step 2: In the definitions section assign symbols to the function computations we use along with REGEX expressions.

Step 3: In the rules section assign dig() function to the dig variable declared.

Step 4: In the definition section increment the values accordingly to the arithmetic functions respectively.

Step 5: In the user defined section convert the string into a number using atof() function.

Step 6: Define switch case for different computations.

Step 7: Define the main () and yywrap() function.

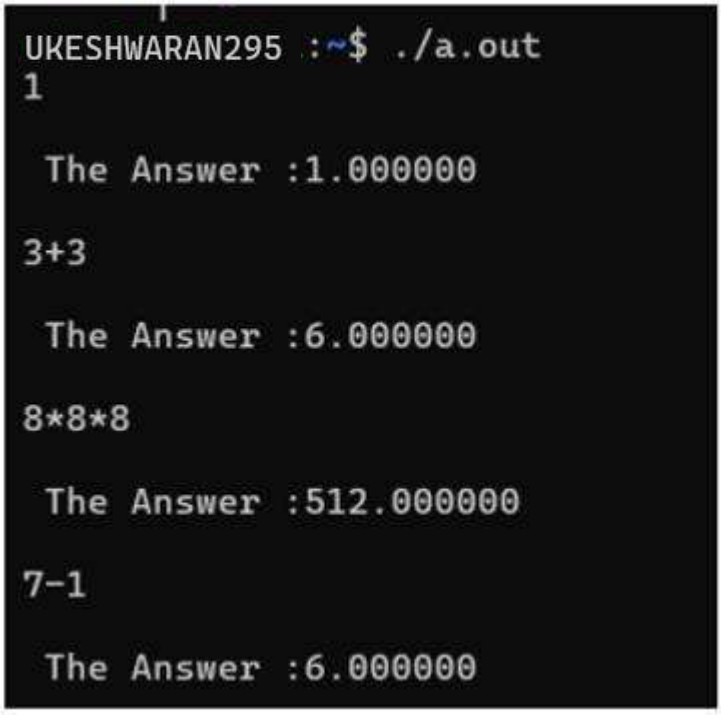
SOURCE CODE:

```
%{

int op = 0,i;
float a, b;
%}

dig [0-9]+|([0-9]*)"."([0-9]+)
add "+"
sub  "-"
mul "*"
div "/"
pow "^" 1
```

```
{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: