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Q:- WAP for calculator.

Sol: Lex code:-

```
%{ #include <stdio.h>
   #include @ "y.tab.h"
   extern int yylval;
%}
%%
[0-9]+ {
        yylval = atoi(yytext);
        return Number;
      }
[\t] ;
[\n] return 0;
.return yytext[0];
%%
int yywrap()
{ return 1;
}
```

YACC code:-

```
%{    #include<stdio.h>
      /int flag=0;
%}
%token NUMBER
% left '+' '-'
%. left '*' '/' '%.'
%. left '(' ')'
```

%.%.

```
ArithmeticExpression: E {
                printf("\n Result = %d \n", $1);
                return 0;
            };
E: E '+' E    { $$ = $1 + $3; }
| E '-' E    { $$ = $1 - $3; }
| E '*' E    { $$ = $1 * $3; }
| E '/' E    { $$ = $1 / $3; }
| E '%' E    { $$ = $1 % $3; }
| '(' E ')'    { $$ = $2; }
| NUMBER    { $$ = $1; }
;

%.%.

void main()
{   printf("\n Enter any Expression");
    yyparse();
    if (flag == 0)
    printf(" \n Expression is valid");
}
  void yyerror()
  {
      printf("\n Entered arithmetic exp is invalid\n");
      flag = 1;
  }
```