Practical-7

AIM : Write a program to implement calculator using lex and YACC.

❖ CODE :

➢ Pr7.y

```
%{
   #include<stdio.h>

   int flag=0;

%}

%token NUMBER

%left '+' '-'

%left '*' '/' '%'

%left '(' ')'

%%

ArithmeticExpression: E{

        printf("\nResult=%d\n",$$);

        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;}
```

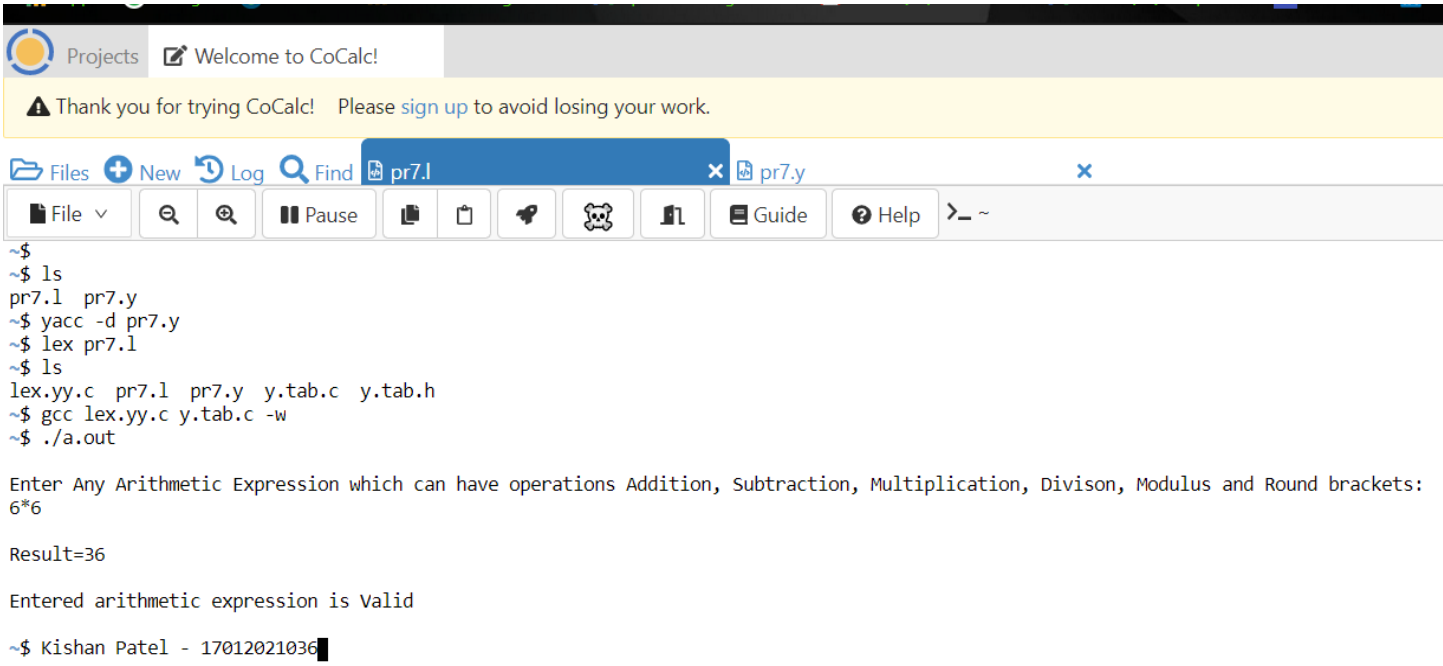
```
 | NUMBER {$$=$1;}

;

%%

void main()

{

   printf("\nEnter Any Arithmetic Expression which can have operations Addition, Subtraction, Multiplication, Divison, Modulus and Round brackets:\n");

   yyparse();

  if(flag==0)

   printf("\nEntered arithmetic expression is Valid\n\n");



}

void yyerror()

{

   printf("\nEntered arithmetic expression is Invalid\n\n");

   flag=1;

}
```

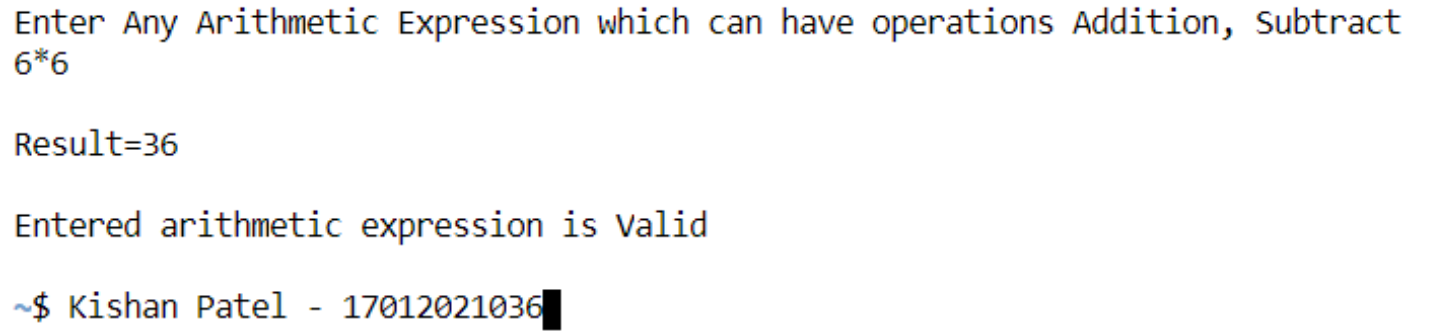
- **Pr7.l**

```
%{

#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;
}
```

❖ OUTPUT :


Projects
Welcome to CoCalc!
Thank you for trying CoCalc! Please sign up to avoid losing your work.
Files
New
Log
Find
pr7.l
pr7.y
File
Pause
Guide
Help
~$
~$ ls
pr7.l pr7.y
~$ yacc -d pr7.y
~$ lex pr7.l
~$ ls
lex.yy.c pr7.l pr7.y y.tab.c y.tab.h
~$ gcc lex.yy.c y.tab.c -w
~$ ./a.out
Enter Any Arithmetic Expression which can have operations Addition, Subtraction, Multiplication, Divison, Modulus and Round brackets:
6*6
Result=36
Entered arithmetic expression is Valid
~$ Kishan Patel - 17012021036


Enter Any Arithmetic Expression which can have operations Addition, Subtract
6*6
Result=36
Entered arithmetic expression is Valid
~$ Kishan Patel - 17012021036