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**Roll No: SCETTYB305.**

**Course: Compiler Design.**

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**Assignment No: 04**

**Aim:**

Write an ambiguous CFG to recognize an infix expression and implement a parser that recognizes the infix expression using YAAC. Provide details of all conflicting entries in the parser table generated by LEX and YAAC and how they have been resolved intermediate code generation**,**

**Program:**

myfile.l  
  
%{    
#include "myfile.tab.h"    
%}    
%%    
"++" {return INC;}    
"--" {return DEC;}    
[0-9]+ {return num;}    
[a-zA-Z]+ {return alpha;}    
[ \t\n]+     {;}   
"$" { return END; }  
.  {return yytext[0];}    
 %%  

myfile.y  
  
  
  
%{     
#include<stdio.h>     
#include<stdlib.h>     
%}   
%token num alpha INC DEC END     
%left '+''-'     
%left '\*''/'     
%right '^'      
%nonassoc UMINUS     
%%   
S : E END{printf("\n Accepted\n");exit(0);}    
;   
   
E: E'+'E      
  |E'-'E      
  |E'\*'E      
  |E'/'E     
  |E'^'E     
  |'('E')'      
  |'-'E %prec UMINUS     
  |alpha     
  |num     
  |alpha INC     
  |alpha DEC      
;     
%%   
   
int yywrap()   
{   
return 1;   
}   
int main()     
{      
 yyparse();     
 return 0;     
}     
int yyerror(char \*s)     
{     
  printf("\nError");     
  return 1;   
}     
 

**Output:**

[student@localhost ~]$ bison -d myfile.y  
[student@localhost ~]$ flex myfile.l  
[student@localhost ~]$ gcc -o myfile myfile.tab.c lex.yy.c  
myfile.tab.c: In function ‘yyparse’:  
myfile.tab.c:1132:16: warning: implicit declaration of function ‘yylex’ [-Wimplicit-function-declaration]  
       yychar = yylex ();  
                ^~~~~  
myfile.tab.c:1267:7: warning: implicit declaration of function ‘yyerror’; did you mean ‘yyerrok’? [-Wimplicit-function-declaration]  
       yyerror (YY\_("syntax error"));  
       ^~~~~~~  
       yyerrok  
[student@localhost ~]$ ./myfile  
a+b  
a-b  
  
Error[student@localhost ~]$ ./myfile

**Conclusion:**

Successfully implement a parser that recognizes the infix expression using YAAC