ALPHA [A-Za-z]  
DIGIT [0-9]  
%%  
while                return WHILE;  
{ALPHA}({ALPHA}|{DIGIT})\*    return ID;  
{DIGIT}+             {yylval=atoi(yytext); return NUM;}  
[ \t]                 ;  
\n                yyterminate();  
.                 return yytext[0];  
%%  
  
**(Yacc Program: intwh.y)**  
  
%token ID NUM WHILE  
%right '='  
%left '+' '-'  
%left '\*' '/'  
%left UMINUS  
%%  
  
S : WHILE{lab1();} '(' E ')'{lab2();} E ';'{lab3();}  
  ;  
E :V '='{push();} E{codegen\_assign();}  
  | E '+'{push();} E{codegen();}  
  | E '-'{push();} E{codegen();}  
  | E '\*'{push();} E{codegen();}  
  | E '/'{push();} E{codegen();}  
  | '(' E ')'  
  | '-'{push();} E{codegen\_umin();} %prec UMINUS  
  | V  
  | NUM{push();}  
  ;  
V : ID {push();}  
  ;  
%%  
  
#include "lex.yy.c"  
#include<ctype.h>  
char st[100][10];  
int top=0;  
char i\_[2]="0";  
char temp[2]="t";  
  
int lnum=1;  
int start=1;  
main()  
 {  
 printf("Enter the expression : ");  
 yyparse();  
 }  
  
push()  
 {  
  strcpy(st[++top],yytext);  
 }  
  
codegen()  
 {  
 strcpy(temp,"t");  
 strcat(temp,i\_);  
  printf("%s = %s %s %s\n",temp,st[top-2],st[top-1],st[top]);  
  top-=2;  
 strcpy(st[top],temp);  
 i\_[0]++;  
 }  
  
codegen\_umin()  
 {  
 strcpy(temp,"t");  
 strcat(temp,i\_);  
 printf("%s = -%s\n",temp,st[top]);  
 top--;  
 strcpy(st[top],temp);  
 i\_[0]++;  
 }  
  
codegen\_assign()  
 {  
 printf("%s = %s\n",st[top-2],st[top]);  
 top-=2;  
 }  
  
lab1()  
{  
printf("L%d: \n",lnum++);  
}  
  
lab2()  
{  
 strcpy(temp,"t");  
 strcat(temp,i\_);  
 printf("%s = not %s\n",temp,st[top]);  
 printf("if %s goto L%d\n",temp,lnum);  
 i\_[0]++;  
 }  
  
lab3()  
{  
printf("goto L%d \n",start);  
printf("L%d: \n",lnum);  
}  
  
**Output :**  
nn@linuxmint ~ $ lex intwh.l  
nn@linuxmint ~ $ yacc intwh.y  
nn@linuxmint ~ $ gcc y.tab.c -ll -ly  
nn@linuxm./a.out  
Enter the expression : while(k=c/s)k=k\*c+d;  
L1:   
t0 = c / s  
k = t0  
t1 = not k  
if t1 goto L0  
t2 = k \* c  
t3 = t2 + d  
k = t3  
goto L1   
L0:   
nn@linuxmint ~ $