

YACC

Yet Another Compiler-Compiler

YACC

YACC will produce a parser for the given grammar

Structure

%{

C Declarations

%}

YACC Declarations

%%

Grammar Rules

%%

Additional C Code

Basic Program

```
%{  
#include <stdio.h>  
%}  
  
%token LETTER DIGIT  
  
%%  
st:st expr '\n' {  
    printf("\n valid expression \n");  
}  
  
%%  
  
int main(){  
    printf("\n enter an expression\n");  
    yyparse();  
}
```

```
%{  
C Declarations  
%}  
  
YACC Declarations  
  
%%  
Grammar Rules  
  
%%  
Additional C Code
```

Valid Arithmetic Expression

In YACC

```
%{  
  
#include<stdio.h>  
  
#include<ctype.h>  
  
%}  
  
%token LETTER DIGIT  
  
%left '+' '-'  
  
%left '*' '/'  
  
%%  
  
st:st expr '\n' {  
    printf("\n valid expression \n");  
}  
  
| st '\n'  
  
|  
  
;
```

expr: expr '+' expr

| expr '-' expr

| expr '*' expr

| expr '/' expr

| '(' expr ')'

| NUM

| LETTER

;

NUM: DIGIT

| NUM DIGIT

;

%%

```
int yylex()
{
char c;
while((c=getchar())!=' ');
if(isalpha(c)) return LETTER;
if(isdigit(c)) return DIGIT;
return(c);
}

int main()
{
    printf("\n enter an expression\n");
    yyparse();
}
```



```
int yyerror()  
{  
    printf("invalid\n");  
    return 0;  
}
```

Compiling YACC Program

```
yacc -d -o program.c program.y
```

```
gcc program.c
```

```
./a.out
```