

7. LEX & YACC Program

Aim :- Design LEX & YACC program to validate type and syntax of variable declaration in Java

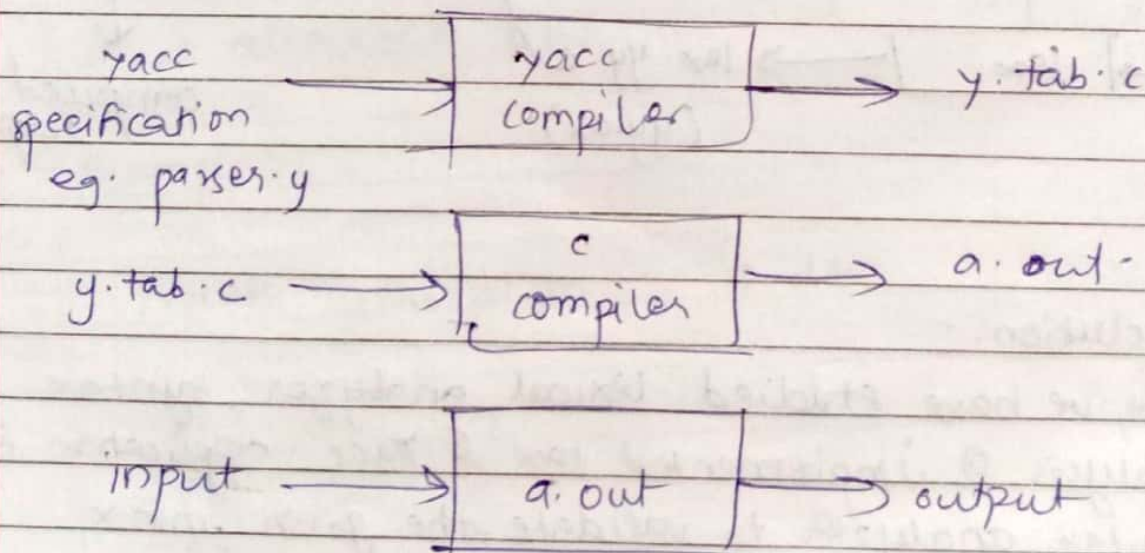
Problem Statement :-

Write a program using YACC specifications to implement lexical analysis phase of compiler to validate type & syntax of variable declⁿ in Java.

Prerequisites :- LEX 110, LEX 120, LEX 130, LEX 140, LEX 160, 20

Theory :-

YACC (Yet another compiler-compiler) is a computer program for the UNIX operating system developed by Stephen C. Johnson.



Structure of a yacc file: -

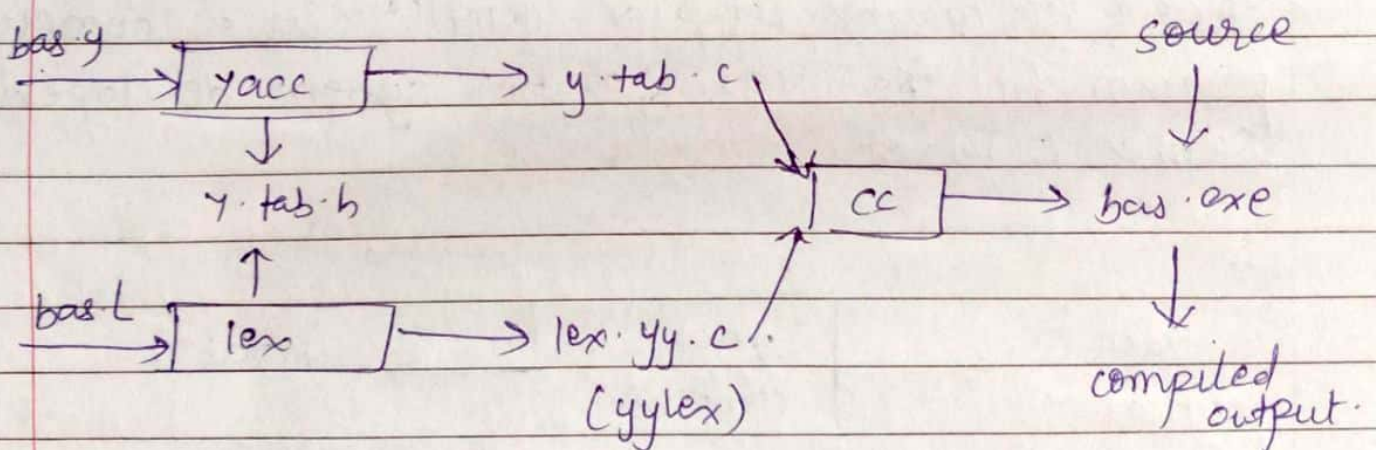
A yacc file looks much like a lex file

```
.... def....  
% %  
.... rules....  
% %  
.... code - -
```

Applications: -

YACC is used to generate parsers, which are an integral part of compilers.

Design Architecture) :-



Conclusion: -

Thus, we have studied lexical analyzer, syntax analysis & implemented lex & yacc application for syntax analyzer to validate the given infix expression.

Assignment No. 07 [LEX Program]

Problem Statement: Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file

1. Code b5.1:

```
% {
    #include<stdio.h>
    int simple=0;
% }

%%
[ \t\n][aA][nN][dD][ \t\n] {simple=1; }
[ \t\n][bB][uU][tT][ \t\n] {simple=1; }
[ \t\n][oO][rR][ \t\n] {simple=1; }
. ;
%%

int yywrap(){

}

int main(){
    printf("Enter sentence: \n");
    yylex();  if(simple==1){
        printf("compound\n\n");
    }
    else{
        printf("simple\n\n");
    }
    return 0;
}
```

OUTPUT

```
Pritam-spos@Pritam-HP:~/SPOSL/LexProgram/B5$ lex b5.1
```

```
Pritam-spos@Pritam-HP:~/SPOSL/LexProgram/B5$ gcc lex.yy.c
```

```
Enter sentence:
```

```
Hi Friends
```

```
Simple
```

```
Pritam-spos@Pritam-HP:~/SPOSL/LexProgram/B5$ lex b5.1
```

```
Pritam-spos@Pritam-HP:~/SPOSL/LexProgram/B5$ gcc lex.yy.c
```

```
Pritam-spos@Pritam-HP:~/SPOSL/LexProgram/B5$ ./a.out
```

Enter sentence:

Hi friends or chai pilo

Compound