

System Programming and Compiler Construction

VI Semester (Computer)

Academic Year: 22-23

Experiment No 5

Aim : Study of Parser generator tool – Yacc**first.l:**

```
%{
    /* Definition section*/
#include "y.tab.h"
extern yylval;
}%

%%
[0-9]+ { yylval = atoi(yytext); return NUMBER; }
[a-zA-Z]+ { return ID; }
[\t]+ ;
\n { return 0; }
. { return yytext[0]; }
%%
int yywrap()
{return 1;}
```

first.y:

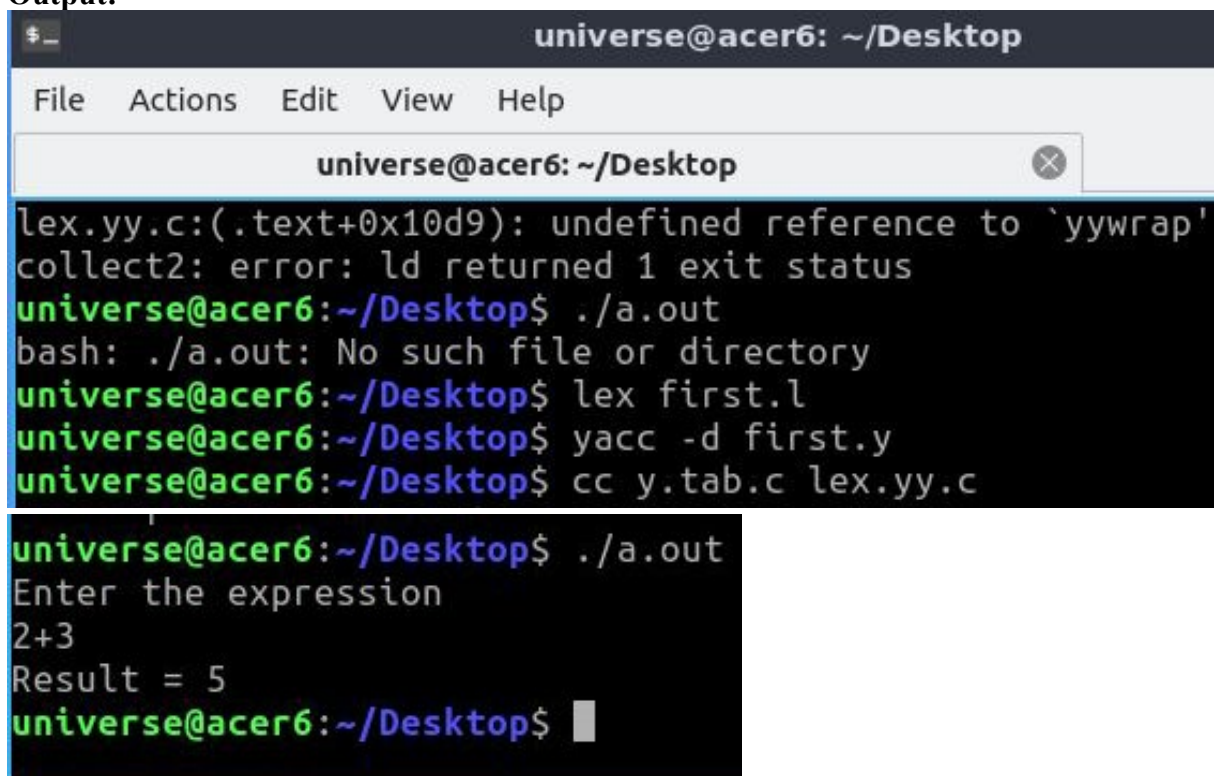
```
%{
    /* Definition section */
#include<stdio.h>
}%

%token NUMBER ID
// setting the precedence
// and associativity of operators
%left '+' '-'
%left '*' '/'

/* Rule Section */
%%
E : T { printf("Result = %d\n", $$); return 0; }

T : T '+' T { $$ = $1 + $3; }
  | T '-' T { $$ = $1 - $3; }
  | T '*' T { $$ = $1 * $3; }
  | T '/' T { $$ = $1 / $3; }
  | NUMBER { $$ = $1; }
```

```
%%  
  
int main()  
{  
printf("Enter the expression\n");  
yyparse();  
}  
  
/* For printing error messages */  
int yyerror(char* s)  
{  
printf("\nExpression is invalid\n");  
}
```

Output:

```
universe@acer6: ~/Desktop  
File Actions Edit View Help  
universe@acer6: ~/Desktop  
lex.yy.c:(.text+0x10d9): undefined reference to `yywrap'  
collect2: error: ld returned 1 exit status  
universe@acer6:~/Desktop$ ./a.out  
bash: ./a.out: No such file or directory  
universe@acer6:~/Desktop$ lex first.l  
universe@acer6:~/Desktop$ yacc -d first.y  
universe@acer6:~/Desktop$ cc y.tab.c lex.yy.c  
universe@acer6:~/Desktop$ ./a.out  
Enter the expression  
2+3  
Result = 5  
universe@acer6:~/Desktop$
```