Class – TE B

PL 3

Title – Lex Yacc

Input –

Lex Code –

%{

#include <stdio.h>

#include "y.tab.h"

extern int scanner;

%}

%option reentrant

%option noyywrap

NUMBER [0-9]+

%%

" " ;

{NUMBER} {

yylval.i = atoi(yytext);

return(NUMBER);

}

[^0-9\b] {

return(yytext[0]);

}

%%

Yacc Code –

%{

#include <stdio.h>

#include <pthread.h>

#include <string.h>

#include <sys/stat.h>

void \*scanner;

FILE \*yyin;

%}

%union {

inti;

}

%token digit

%lex-param {void \* scanner}

%parse-param {void \* scanner}

%start list

%type <i> expr

%token <i> NUMBER

%left '+' '-'

%left '\*' '/'

%%

list:|

list stat '\n'

|

list error '\n'{ yyerrok; }

;

stat: expr {

int g = pthread\_self();

printf("\nThread = %d ........ Ans = %d\n",g,$1);

}

;

expr: expr '\*' expr { $$ = $1 \* $3; }

|

expr '/' expr { $$ = $1 / $3; }

|

expr '+' expr { $$ = $1 + $3; }

|

expr '-' expr { $$ = $1 - $3; }

|

NUMBER

;

%%

//subroutines

structstruct\_arg //to pass parameters to pthread, create structure

{

unsigned char\* file; //here file is parameter first

};

intyyerror()

{

return 1;

}

void \*parse(void \*arguments)

{

structstruct\_arg \*args = (structstruct\_arg\*)arguments;

unsigned char\* filename;

filename = args -> file;

yyin = fopen(filename,"r");

if(yyin == NULL)

{

printf("\n Input not received");

}

else

{

yylex\_init(&scanner);

yyset\_in(yyin,scanner);

yyparse(scanner);

yylex\_destroy(scanner);

}

fclose(yyin);

}

intmain(intargc, char \*argv[])

{

intnum;

printf("\nPlease ,Enter the number of threads that you want to create:");

scanf("%d", &num);

int error, count = 0;

FILE \*fp0, \*fp1, \*fp2, \*main\_file;

char line[256];

size\_tlen = 0;

char read;

main\_file = fopen("test.txt", "r");

fgets(line, sizeof(line), main\_file);

fp0 = fopen("first.txt", "w");

printf("\nLine1 = %s",line);

printf("\n-------------------------------------------------------------------");

fprintf(fp0, "%s", line);

fclose(fp0);

fgets(line, sizeof(line), main\_file);

fp1 = fopen("second.txt", "w");

printf("\nLine2 = %s",line);

printf("\n-------------------------------------------------------------------");

fprintf(fp1, "%s", line);

fclose(fp1);

fgets(line, sizeof(line), main\_file);

fp2 = fopen("third.txt", "w");

printf("\nLine3 = %s",line);

printf("\n-------------------------------------------------------------------");

fprintf(fp2, "%s", line);

fclose(fp2);

fclose(main\_file);

structstruct\_arg arguments[num];

arguments[0].file = "first.txt";

arguments[1].file = "second.txt";

arguments[2].file = "third.txt";

pthread\_ttid[num];

int j = 0;

while(j <num)

{

error = pthread\_create(&(tid[j]), NULL, &parse, (void \*) &arguments[j]);

j++;

}

sleep(20);

int n = 0;

while(n <num)

{

pthread\_join(tid[n], NULL);

printf("\*\*\*");

n++;

}

return 0;

}

Output –

unix@ubuntu:~/Desktop$ yacc -d conyacc.y

unix@ubuntu:~/Desktop$ lexconlex.l

unix@ubuntu:~/Desktop$ cc lex.yy.cy.tab.c -o conyacc.out -pthread

unix@ubuntu:~/Desktop$ ./conyacc.out

Please ,Enter the number of threads that you want to create:3

Line1 = 6\*3-4

-------------------------------------------------------------------

Line2 = 7+1-5

-------------------------------------------------------------------

Line3 = 4/2+3

-------------------------------------------------------------------

Thread = 964978432 ........Ans = 5

Thread = 973371136 ........Ans = 3

Thread = 981763840 ........Ans = 14

\*\*\*\*\*\*\*\*\* unix@ubuntu:~/Desktop$