Assignment no – A4

Roll no – 4461

Lex file

%{

#include "y.tab.h"

#include <stdio.h>

extern int yylval;

%}

%%

[0-9]+ {yylval=atoi(yytext); return DIGIT; }

int|float|char|double {return DTYPE;}

"#include <"[.a-zA-Z ]\*">\n" {return HEADER;}

"main()"[\n]\* {return MAIN;}

"{"[\n]\* {return STARTB;}

"}"[\n]\* {return ENDB;}

";"[\n]\* {return ENDS;}

"," {return SEP;}

[-+/\*] {return OP;}

"=" {return EQ;}

"(" {return OPB;}

")" {return CLB;}

"if" {return IFC;}

"printf("[^\)]\*")" {printf("Function call\n");return FUNC;}

"scanf("[^\)]\*")" {printf("Function call\n");return FUNC;}

[a-zA-Z][\_a-zA-Z0-9]\* {return VAR;}

[ \t]+ ;

%%

int yywrap()

{return 1;}

Yacc File:

%{

#include <stdio.h>

extern FILE\* yyin;

%}

%token DIGIT VAR HEADER MAIN STARTB ENDB

%token ENDS DTYPE SEP FUNC OP EQ

%token IFC OPB CLB

%%

St: S MAIN STARTB stmts ENDB {printf("Program with main\n");};

S: HEADER S | HEADER {printf("HEADERs\n");};

stmts: stmt| stmts stmt| ;

stmt: expr|DTYPE varlist ENDS | FUNC ENDS | IFC OPB CLB STARTB stmts ENDB {printf("\nStatement\n");};

varlist: VAR| varlist SEP VAR ;

expr: VAR EQ dv opn ENDS{printf("Expression\n");};

opn: OP dv | OP dv opn|;

dv: DIGIT|VAR;

%%

void yyerror(char\* s)

{

printf("Incorrect Syntax");

}

int main()

{

char ifile[100];

printf("\nEnter input file name: ");

scanf("%s",ifile);

yyin=fopen(ifile,"r");

yyparse();

}

INPUT FILE:

#include <stdio.h>

#include <iostream.h>

#include <math.h>

main()

{

int a,b,c;

printf("Hello");

int d,e;

printf("HI");

scanf("Enter");

a=b+20;

if()

{

c=d;

char x,y;

}

}

OUTPUT:

root@Lenovo:~/workspace/# yacc -d p1.y

p1.y: warning: 8 shift/reduce conflicts [-Wconflicts-sr]

p1.y: warning: 1 reduce/reduce conflict [-Wconflicts-rr]

root@Lenovo:~/workspace/# lex p1.l

root@Lenovo:~/workspace/# gcc lex.yy.c y.tab.c

p1.y:21:6: warning: conflicting types for ‘yyerror’

void yyerror(char\* s)

^

y.tab.c:1315:7: note: previous implicit declaration of ‘yyerror’ was here

yyerror (YY\_("syntax error"));

^

root@Lenovo:~/workspace/# ./a.out

Enter input file name: abc.c

HEADERs

Function call

Function call

Function call

Expression

Expression

Statement

Program with main

root@Lenovo:~/workspace/#