Lab Performance Test [1]

Lab Task Q[1]

Question: Consider given code, #include<math.h> int main(){ float a=1; float b=2; float c=a+b; return 0; } . Show preprocess output file generated by C compiler along with Makefile (point penalty for adding extra commands other than necessary).

Solution (Bold your own written code):

```
Makefile Code:

All:
     gcc -E proc.c > proc.i
```

Output (Screen/SnapShot):

```
E:\STUDY\4_1\Compiler Design 4101\CD_Lab\Test 1\LPT1_1803108_Q1>make
gcc -E proc.c > proc.i
```

Lab Task Q[2a]

Question: Consider given statements, 1. Batman 1 Movie 2. AntMan 2 Movie 3. SpiderWoman 4 Movie . a) Show a flex file which can tokenize given statements. Solution (Bold your own written code):

```
%option noyywrap

%{

%}


%%
"Batman" {printf("%s -> Batman\n",yytext);}
"Antman" {printf("%s -> Antman\n",yytext);}
"SpiderWoman" {printf("%s -> SpiderWoman\n",yytext);}
"Movie" {printf("%s -> Movie\n",yytext);}
[0-9] {printf("%s -> Number\n",yytext);}
%%

int main()
{
    //1803108
    yylex();
    return 0;
}
```

Output (Screen/SnapShot):

```
E:\STUDY\4_1\Compiler Design 4101\CD_Lab\Test 1\LPT1_1803108_Q2a>flex prog.l

E:\STUDY\4_1\Compiler Design 4101\CD_Lab\Test 1\LPT1_1803108_Q2a>gcc lex.yy.c

E:\STUDY\4_1\Compiler Design 4101\CD_Lab\Test 1\LPT1_1803108_Q2a>a
Batman 1 Movie
Batman -> Batman
 1 -> Number
 Movie -> Movie
```

Lab Task Q[2b]

Question: Consider given statements, 1. Batman 1 Movie 2. AntMan 2 Movie 3. SpiderWoman 4 Movie . b) Show a bison file which can parse given statements.

Solution (Bold your own written code):

```
//Prog.l Code
%option noyywrap

%{
    #include "prog.tab.h"
%}

%%
"Batman" {printf("%s -> Batman\n",yytext);}
"Antman" {printf("%s -> Antman\n",yytext);}
"SpiderWoman" {printf("%s -> SpiderWoman\n",yytext);}
"Movie" {printf("%s -> Movie\n",yytext);}
[0-9] {printf("%s -> Number\n",yytext);}
%%




//prog.y Code
%{
#include<stdio.h>
int yylex();
void yyerror(char *s);
%}

%token Batman Antman SpiderWoman Number Movie
%start S

%%
S: Batman Antman SpiderWoman Number Movie
%%


int main()
{
    //1803108
    yyparse();
    printf("Parsing Finished\n");
    return 0;
```

```
}

void yyerror(char *s)
{
    fprintf(stderr, "error: %s\n",s);
}
```

Output (Screen/SnapShot):

```
E:\STUDY\4_1\Compiler Design 4101\CD_Lab\Test 1\LPT1_1803108_Q2b>make
bison -d prog.y
flex prog.l
gcc lex.yy.c prog.tab.c
a <input.txt
SpiderWoman -> SpiderWoman
 4 -> Number
 Movie -> Movie
error: syntax error
Parsing Finished
```