Date: 25/01/2024

Indian Institute of Technology Patna
CS352: PPL and Compiler Lab

Assignment Questions **Time: 3 – 5:50PM**

Note: (1) Do not open any internet browser or mail-inbox until 5:30 p.m., (2) Do not discuss with any other students. If you have any query, feel free to ask the Teaching Assistants, (3) Submission through google form will be activated exactly at 5:30 p.m., (4) You may be asked to show your code on your lab-assigned computer anytime later (even on other day also) for evaluation purpose, if required. Please ensure that the timestamp associated with your solution file indicates no update after today's lab hours, i.e. 6 p.m. 25th Jan'24.

Question 1: Implement a single Lex program to perform lexical analysis on a C source code file to display the followings:

i. Number of keywords, identifiers, and constants. Marks - 3
ii. Number of single-line and multi-line comments. Marks - 4
iii. Number of functions and their respective parameters. Marks - 7
iv. Output the given source code with standard indentation. Marks - 11

Input: sample.c	Output:

#include<stdio.h> //declaration
 	
void hello(int a, char b);
int a=0;
int main(){
/* write definition of main here*/
int b = 5;
if (a==0){ a=b;}
printf("Hello World"); return 0;}
void hello(int a, char b){ printf("hello");}
	#include<stdio.h> //declaration
	
	void hello(int a, char b);
	int a=0;
	int main(){
	/* write definition of main here*/
	int b = 5;
	if (a==0){
	a=b;
	}
	printf("Hello World");
	return 0;
	}
	
	void hello(int a, char b){
	printf("hello");
	}
	
	Keywords: 10
	Identifiers: 20
	Constants: 4
	Single-line Comments: 1
	Multi-line Comments: 1
	Functions: 2
	Parameters: 2