COMP 451

FORMAN CHRISTIAN COLLEGE

(A CHARTERED UNIVERSITY)

COMPILER CONSTRUCTION

LAB 1

ROLL No. **Time Allowed: 4 Hours**

This is an online lab. It should be completed in complete isolation. No Group formation is allowed.

It's an open books, open notes lab session. Internet access is strictly prohibited for this lab.

You CANNOT share your code with other students in class. Any such attempt will result in a straight ZERO grade in this lab.

Submission Format:

Submit your lab within due time allotted for this lab. If you fail to do so, a cap of 20% will be applicable per hour.

You must submit a hard copy of the report for this lab (report format is uploaded on MOODLE course page) in the next lab session.

Grading Criteria

Code producing correct results	70%
Well formatted report	30%

Submission Instructions:

Once you have completed both the tasks, zip these in a file. Make sure to name the zip file with your roll_number. ***DONOT use .rar format***. Upload the zip file on MOODLE course page.

Lab Task 1 [30]

Write a program in C which accepts a file name on command line from the user. Your program should then read the file line by line till end of file and displays the longest line in the file on the console. You are allowed to use C string built in functions in this part.

Strictly follow the incomplete code skeleton given below. Everyone must use the same function/s provided in the skeleton. A zero grade will be awarded in this task if you deviate from the given code skeleton.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main(int argc, char *argv[])
{
	//check number of args
	if(argc != 2)
	{
		printf("This program needs a text file as argument\n");
```

```
            exit(0);
      }
      //your logic goes here

      return 0;
}
```

Sample Run

Suppose myfile is a text file that you can create at your own and place it in the same folder where the .c file for your code resides.

Contents of myfile are as shown:

Hello class. This

is a test file

for lab1.

Compiler Construction is a fun course.

You should run your program as follows:

```
$ ./lab1Task1 myfile
Longest line in the file:
Compiler Construction is a fun course.
```

Lab Task 2 [40]

Write a program in C which accepts a file name on command line from the user. Your program should then read the file line by line till end of file and displays the longest line in the file on the console. You are **NOT** allowed to use C string built in functions in this part. Here you are required to write your own function/s that can compute the length of the line passed to it as input argument.

Strictly follow the incomplete code skeleton given below. Everyone must use the same function/s provided in the skeleton. A zero grade will be awarded in this task if you deviate from the given code skeleton.

```
#include <stdio.h>
#include <stdlib.h>
int get_length(char *);
int main(int argc, char *argv[])
{
	//check number of args
	if(argc != 2)
	{
		printf("This program needs a text file as argument\n");
		exit(0);
	}
	//your logic goes here

	return 0;
}
int get_length(char *s)
{

}
void cpy_strings(char *destination, char *source)
{

}
```

Sample Run

Suppose myfile is a text file that you can create at your own and place it in the same folder where the .c file for your code resides.

Contents of myfile are as shown:

Hello class. This

is a test file

for lab1.

Compiler Construction is a fun course.

You should run your program as follows:

```
$ ./lab1Task2 myfile
Longest line in the file:
Compiler Construction is a fun course.
```