FORMAN CHRISTIAN COLLEGE

(A CHARTERED UNIVERSITY)
COMPILER CONSTRUCTION
LAB 2

ROLL No. **Time Allowed: 90 Minutes**

This lab is face to face. Group formation is allowed. A group of max two students is allowed.

It's an open books, open notes lab session.

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

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%

Lab Task [70]

Write a C program that can perform following operations:

1. Your program should get two inputs from user on command line. First should be the name of a file available on your PWD. Second should be a character.

2. Make sure that user has provided correct inputs. Any incorrect or invalid input should result the program to terminate with an appropriate message to the user.

3. Your program should read the file character by character and display the entire file on stdout with each line preceded by line number.

4. After the file is displayed in the said format, your program should display number of characters in each line.

5. Finally your program should display a message saying the frequency of occurrence of the second argument (the character which user has provided as second argument to the program).

Assume your file does not carry more than 10 lines.

Suppose the input file is as follows:

Hello friends!

This is compiler construction lab.

C programming is real fun.

Have a nice day.

Sample Run 1:

```
$ gcc lab2.c –o lab2
$ ./lab2
Invalid arguments.
```

Sample Run 2:

```
$ gcc lab2.c –o lab2
$ ./lab2 in i
1. Hello friends!
2. This is compiler construction lab.
3. C programming is real fun.
4. Have a nice day.
Number of lines in the file: 4
No of characters in line No.1: 14
No of characters in line No.2: 34
No of characters in line No.3: 26
Character 'i' found 8 times in the file.
```