

Lab Assignment Week 07

CSC 3320 – System-level Programming

Week of February 19th, 2024

Introduction

Welcome to the seventh programming lab of CSC 3320! Today, we will be covering the following topics:

1. Flow Control
 - Loops
 - If statements
2. Arrays

Lab Policies

- Attendance is mandatory.
- Labs must be completed **individually**.
- TAs are here to help you. Ask them for help!
- Lab assignments are due at midnight on the day of your lab.

Deliverables:

1. The C Code for your program. (.c file).
2. A screenshot of the output in the Terminal.

If you have any questions, please do not hesitate to ask your TA.

Program: Most Frequent Character

Write a program that finds the most frequent character from an input file. Your program should be able to track the frequency of the characters of the alphabet but ignore numbers, whitespaces, and any punctuation in the file. Finally, your program should output the most frequent character and the number of appearances in the input file. Your program can assume that it always reads from a "sample.txt" file located in the same directory as the executable. You can find an example of the sample.txt file attached to the assignment on iCollege.

Note: The `tolower()` & `toupper()` functions that are part of the `<ctype.h>` library converts characters to lowercase and uppercase, respectively. They will help make your code case insensitive. Look them up!

Example Output

```
Opening sample.txt
The most frequent character is 'o'. It appeared 151 times.
```

Deliverables

For today's lab, you will need to upload the C program code for your Most Frequent Character program and its output in the terminal on iCollege. Please name your C code and screenshot as follows:

- C Files
 - lastname_firstname_filename.c
 - For example: **hawamdeh_faris_mostFreqChar.c**
- Screenshots
 - lastname_firstname_filename.png
 - For example: **hawamdeh_faris_mostFreqChar.png**