

## **CS100: Software Tools & Technologies Lab I**

### **Lab-1: Practice Problems (Linux Commands)**

**Date: 9-Aug-2024**

#### **Instructions:**

1. You must solve the below problems only on the Linux terminal to make yourself familiar with linux commands and start getting good practice.
2. Try to complete lab problems during the lab hour and submit it through canvas. Prepare all your solution files in a zip file and name it as <ROLLNO.zip> and submit on canvas.

#### **Problems:**

1. Create a directory in the desktop with your roll no as directory name.
2. Enter the directory and create an empty file named "Grade.c" in the folder you created.
3. Use any text editor to write a program in Grade.c that takes input a letter grade A, B, C, D, E, or F and prints the student performance as below.

Input	Output
A	Your performance is excellent
B	Your performance is good
C	Your performance is fair
D	Your performance is poor
E	Your grade is not complete
F	You are failed
<Any other character>	Invalid character

4. Compile your program using gcc
5. Write a linux command to compute the total number of words in your program
6. Write the linux command to print the lines along with line numbers containing the text "You" in your program
7. Write a linux command that prints the number of times the character '{' appears in your program.
8. Implement the wc command in c language. Your executable should be wc. The input and output format is listed below.

Execution format: `./wc file.txt`

Output: `<number_of_lines> <number_of_words> <number_chars> file.txt`

9. Implement the `grep` command in c language. Your executable should be `grep`.

The input and output format is listed below.

Execution format: `./grep string_pattern file.txt`

Output:

`<line number>: <the complete text in the line that has the string_pattern>`