

## **CSL302: Compiler Design**

### **Lab-4 (Lexical Analysis)**

**Due Date: 22-Aug-2025 11:59 PM**

#### **Instructions:**

1. Prepare a zip file and upload your solutions on canvas
2. Include a readme file
3. Submit the solutions on Canvas.

#### **Question-1:**

Implement the following linux commands using lexical analysis.

1. head
2. tail
3. cat
4. cp

#### **Question-2:**

Assume that an operating system uses the file names (or directory names), file paths (or directory paths) as described below.

- File name/Directory name can contain only digits or alphabets (upper/lower)
- The length of file/directory name has to be at least one.
- The file extensions can be either txt or dat
- The file path should separate the directories with a slash(/). For example, /home/abc/1abc/ is a valid path
- The file path can contain the string .. to express the parent directories. For example, /home/../../root/abc.txt is a valid file path

Write a simple lexical analyzer that takes any string as an input and prints a token as VALID PATH if the string is a valid file/directory path. Otherwise, it should print the token as INVALID PATH