

# Department of Computer Science and Engineering

<b>Course Code:</b> CSE321	<b>Credits:</b> 1.5
<b>Course Name:</b> Operating Systems	<b>Semester:</b> Sum'18

## Lab 03 Advanced Shell Programming

### 1. Topic overview:

Students will be introduced with the Advanced Linux shell command to manipulate the content of a file. Use of command *grep*, *sed*, *awk* etc will be introduced.

### 2. Learning outcome:

After this lab students will be able to:

- insert , append, update content of a file
- Perform basic operation on the content of file,

### 3. Activity details:

- First hour:**
- i. Discussion on *grep* command
  - ii. discuss on **regular expression**.
  - iii. Show different option of command *grep*.
  - iii. Discussion on *sed* command.
  - iv. Show different option of command *sed*.
  - v. .Discussion on *awk* command.
  - vi. Show different option of command *awk*.

**Second hour:** i. Practise different options of the commands to:

1. Search
2. Insert
3. Update
4. Sort

Content of a file.

**Third hour:** Problem solving (Lab tasks)

## **Lab tasks**

### **GREP**

- Task 1: Search for the given string in a single file
- Task 2: Checking for the given string in multiple files.
- Task 3: Case insensitive search using `grep -i`
- Task 4: Match regular expression in files
- Task 5: Checking for full words, not for sub-strings using `grep -w`
- Task 6: Displaying lines before/after/around the match using `grep -A, -B` and `-C`
- Task 7: Display N lines after match
- Task 8: Display N lines before match
- Task 9: Highlighting the search using `GREP_OPTIONS`
- Task 10: Invert match using `grep -v`
- Task 11: Counting the number of matches using `grep -c`
- Task 12: Show the position of match in the line

### **SED**

- Task 1: Replace every occurrence of Nick with John in report.txt
- Task 2: Replace every occurrence of Nick or nick with John.
- Task 3: Add 8 spaces to the left of a text for pretty printing.
- Task 4: Display only one paragraph, starting with "Of course"
- Task 5: Show only lines 12-18 of file.txt
- Task 6: Delete the last line
- Task 7: Replace foo with bar only for the first instance in a line.