**Faculty of Computing**

**SE-314: Software Construction**

**Class: BESE 13AB**

# Lab 07: Recursion

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**Bese 13 A**

**Date: 28th Oct 2024**

**Time: 10:00 AM** **- 12:50 PM   
 02:30 PM – 04:50 PM**

**Instructor: Dr. Mehvish Rashid  
Lab Engineer: Mr. Aftab Farooq**

**Introduction:**

# Lab 07: Recursion

Students will have hands-on experience on designing, testing, and implementing recursive problems. Given a scenario, you will write the specifications and implement it by dividing into base case and recursive step. You may design helper methods to simplify your implementations. Write unit tests that check for compliance with the specifications.

## Lab Tasks

**Task 1: Recursive File Search**

**Objective:** The objective of this lab task is to create a Java program that recursively searches for a file within a directory and its subdirectories. This exercise will help you practice the principles of software construction and recursion.

**Task 2: Recursive String Permutations**

**Objective:** The objective of this lab task is to create a Java program that generates all permutations of a given string using a recursive algorithm. This exercise will help you practice recursion and algorithm design.

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| Solution |
| GitHub Link: <https://github.com/musfirbaig/sc_labs/tree/main/lab7>Task 1:Task 2 |

### Deliverables:

Compile a single word document by filling in the solution part and submit this Word file on LMS.

In case of any problems with submissions on LMS, submit your Lab assignments by emailing it to [aftab.farooq@seecs.edu.pk.](mailto:aftab.farooq@seecs.edu.pk.)