**Lab – 01**

**20/01/2025**

## Searching and Sorting

**Note:**

1. Use only visual studio code type your program and run your code.
2. Always follow industry coding best practices.
3. To compile your file, follow the steps below
   - Save your file as a .cpp file
   - Go to the location where you have stored the file via terminal
   - Compile as "**g++ -o objectfilename filename.cpp**"
   - Run as "**/objectfilename**"

1. Write a C++ menu-driven program to sort a given array in ascending order. Design proper functions, maintain boundary conditions and follow coding best practices. The menus are as follows,
   a. Bubble Sort
   b. Selection Sort
   c. Insertion Sort
   d. Exit

2. Convert the sorting program into a header file and include it into a new cpp file. Write a C++ menu-driven program for linear and binary search in this new cpp file. Utilize any of the sorting functions in the included header file to sort the input array before performing a binary search. Design proper functions, maintain boundary conditions and follow coding best practices. The menu-driven program supports,
   a. Linear Search
   b. Binary Search
   c. Exit

Files to be submitted

1. Sort CPP file (.cpp)
2. Sort Header file (.h)
3. Search CPP file (.cpp)