

## Experiment No.2

**Problem Statement:** To study and implement basic comparative sorting methods – Selection, Insertion, Bubble, and Shell, and Bucket.

### Methodology:

- Write a generalized function to create a list of elements
  - Type of lists
    1. Decreasing order
    2. Increasing order
    3. Increasing order with the  $N^{\text{th}}$  element out of order
    4. Randomly generated elements
  - Number of elements in a list in multiple of 10. (size should be large enough to run possible iterations to test the time complexity, e.g around 1000000 elements)
- Write function to create a copy of list to use repeatedly.
- Write function to display list contents.

Using above functions, write a menu-driven C program to order the list in ascending sequence using - the Bubble Sort, the Insertion Sort, the Selection Sort, the Shell Sort and the Bucket Sort.