

Exp-07: Familiarization with various sorting techniques.

a) Objectives:

- To implement bubble sort, quick sort and merge sort
- To understand the complexity of each algorithm

b) Prerequisites:

- Functions
- Recursion

c) Theory:

[See books for understanding the sorting algorithms]

Task1:

Description:	Given N numbers sort them using bubble sort algorithm.
Sample Input:	5 3 7 12 -2 3
Sample Output:	-2 3 3 7 12

Task2:

Description:	Given N numbers sort them using quick sort algorithm.
Sample Input:	5 3 7 12 -2 3
Sample Output:	-2 3 3 7 12

Task3:

Description:	Given N numbers sort them using merge sort algorithm.
Sample Input:	5 3 7 12 -2 3
Sample Output:	-2 3 3 7 12

d) Discussion:

- Counting sort
- Selection sort, radix sort

e) Homework:

Implement the following tasks on your own. You can discuss with others but **copy/pasting code from any source is strictly prohibited**. Violation of this rule will result in permanent failure of this course.

- 1) Implement counting sort and analyze the complexity
- 2) Implement radix sort and analyze the complexity (see book for more details)