

Computing Systems Lab

IT69101
(Autumn 2010)

Assignment #8

27/10/2010

Instructions:

Create files of integers data as follows.

- Type 1: All data are arranged in ascending order.
- Type 2: All data are arranged in descending order.
- Type 3: All data are in random order.
- Type 4: only ~10% data are out of place than their actual place if sorted in ascending order.

Create data file for each of type with sizes **1K**, **10K**, **50K** and **100K**.

Use these data files in your experiments.

1. Implement the following sorting algorithms.

- (a) Heap sort
- (b) Quick sort
- (c) Merge sort

Run the algorithms with each data file and observe the results.

2. Implement the following two search algorithms

- (a) Binary search
- (b) Interpolation search

Run your implementations with data files of *Type 1* and *Type 2*.

Last date of submission: 10/11/2010