Kathmandu University

Department of Computer Science and Engineering

Dhulikhel, Kavre

A Report on

COMP 202: Data Structures and Algorithms

Mini Project

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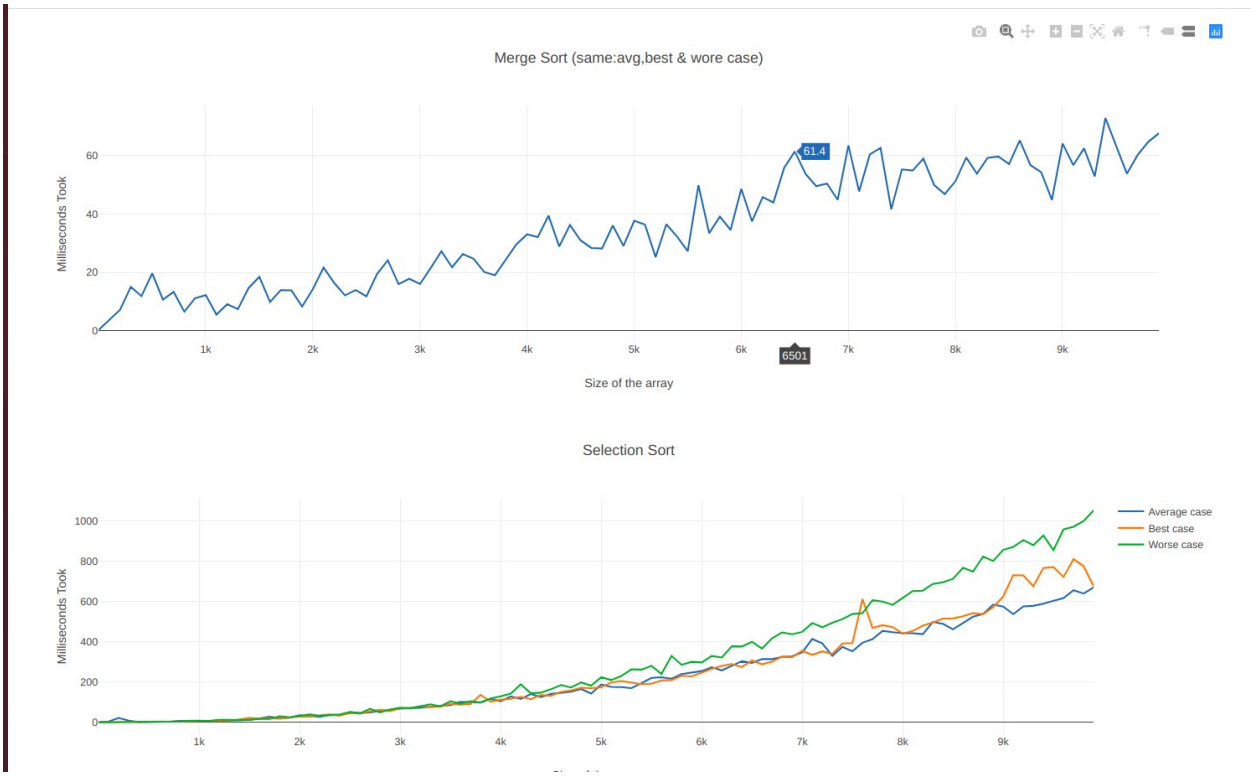
A Brief Explanation

This was a mini project for COMP202 course at Kathmandu University
This project is the implementation of selection sort and merge sort algorithm. The implemented algorithm is used to sort the array of different sizes (1 to 10000) and time required to solve is recorded. After sorting the same array using selection and merge sort their corresponding time we plot the time required vs array size in the graph to analyze the algorithms. Moreover, we have noted these values for the average case, best case and worst case of the algorithms.



From the graph above, for the small dataset there is not that significante difference but as the size of the array increases the time required by selection sort is comparatively very high. Looking at the BigO notation for the merge sort it is O(nlogn) but for the selection sort it is O(n^2). From the graph obtained and the from the BigO notations we can conclude that merge sort is more preferable to selection sort for the large dataset.