Palestine Polytechnic University

Design and Analysis of Algorithms/ 5270

**Course Project: Sorting algorithms/ design, time analysis and discussion**

**This is a group project (3 students each group)**

**Project**

In this Project, you’ll use some sorting algorithms to sort different sets of randomly generated input data.

This work took theoretical and empirical studies that have been done over the past weeks on sorting algorithms and corresponding variants. The study includes a comparative study of sorting algorithms (Insertion sort, Mergesort, quick sort and the counting Sort) as given in class.

**Input**: 5 large sets of input integers. Leave the size of the set to be determined by the user.

i.e.

Enter the size of set # 1: <12000>

Enter the size of set # 2: …

…

**Procedure**: Find the running time of each algorithm on all input sets

**Output**: Record your output in an excel sheet (one table)

**Visualization**: Plot the recorded times for each algorithm with the corresponding sizes on the same graph. *You may use excel tools to plot your graphs*

**Discussion**: Discuss your output

**Submit**:

* A Hardcopy of your code, table, graph and discussion
* CD containing everything

**Due** **Date**: 7/5/2022 in class