School of Computer Sciences, Universiti Sains Malaysia

CPT316
Programming Languages Implementation & Paradigms
Semester 1, 2022/2023

ASSIGNMENT 1 – REPORT
(Group Work: Minimum of 2 or Maximum of 3 Persons Per Group)

You are expected to write a report implementing a string sorting algorithm of your choice in two programming languages: Java and Python based on the given data set. Below are some points that guide you in preparing the report.

1. The general outline of the report:
    - i. *Abstract*
    - ii. *Introduction (brief background of Java and Python)*
    - iii. *Review of three string sorting algorithms*
    - iv. *Reason/Justification of selecting one algorithm to be implemented*
    - v. *String sorting implementation in Java*
    - vi. *String sorting implementation in Python*
    - vii. *Performance evaluation and comparison of results*
    - viii. *Lesson learned and conclusion*
    - ix. *References*

2. Find at least **three relevant papers** that are related to the above topic. Relevant papers refer to papers published in journals, conference proceedings or technical reports [Tips: IEEE Xplore, ACM, Elsevier and etc]. Web pages, FAQs or presentation slides are not counted as relevant papers. However, they are counted as other references beside the three required relevant papers. Cite them as your references properly. Your deliverables must include the following requirements:

    - Report with Java and Python source code in the appendix
    - Try to make the report brief yet concise (Proofread your work)
    - Expected length of the report: between 10 (min.) and 20 (max.) pages
    - Marking Scheme: refer to the rubrics posted on the e-learning course page
    - Source of the data file -
      https://elearning.usm.my/sidang2223/mod/resource/view.php?id=43574
    - Clear division on task among the group members
    - It is possible that the group grade is different from individual grades

3. The report should address the followings:

    - Selection of one of the three reviewed string sorting algorithms
    - Implementation of the selected string sorting algorithm in Java and Python
    - Performance evaluation and comparison of the results

4. Submit the following together with well formatted report:

    - Soft copy - (Report + 3 relevant papers): e-learning
    - Source code of Java and Python programs

Note:

You must write the report yourself using your own ideas / words and not simply cut and paste from your references. List all references at the end of the article. ***In the event that parts of the report are directly copied from others without references, F grade is given.***

Deadline for submission is 16 Nov. 2022, by 12:00 pm. Please submit your submission to the elearn.