COMP2421 (Fall2022/2023)
Project #4
Due date 23/2/2023 @ 11:59PM

In this research paper, you are required to search/study/report 5 newsorting algorithms.

Your final report should include the following:
- A cover page including your name, student ID, and sectionnumber.
- Table of contents
- Write around two pages about each sorting algorithm:
  - Write the algorithm and discuss it.
  - Mention the algorithm properties: time complexity andspace complexity and various situations, stability, and weather it's in place or not.
  - Explain the running time of the algorithms if the inputdata array is:
    - Sorted (ascending)
    - Sorted (descending)
    - Not sorted
- A summary page comparing the 5 sorting algorithm based on theproperties.
- A final page contains the used references reported in a scientificformat.

The following algorithms should not be in your list:
1. Insertion
2. Selection
3. Bubble
4. Shell
5. Merge
6. Heap
7. Quick
8. Radix

Submission instructions:

1. **This is individual work**. It should represent your own efforts. It is fine to discuss your

   work and to ask your colleagues, but you are notallowed to copy/paste the work of

   others or give your work to anyone else, copy/paste from websites and other references

   is not allowed as well. You should describe the algorithms in your own words. As well, if

   you use an image from the internet please include it in the references.

2. **Document format**. Your submission should be a PDF documentand named as:

   "**P4_YourStudentID_FirstNameLastName_SectionNo.pdf**".

   E.g., P4_1199999_MohammedAhmed_3.pdf → given this student insection 3.

3. Make sure to include proper references of the paper.

4. Make sure to explain the concepts "In Your Own Words!". No copy-paste is allowed.

5. In the discussion you may be asked about everything you include inyour writing, so

   make sure you understand it well.