CMP1124M – Algorithms and Complexity – Assessment 2

Learning Outcome	Criterion	Pass	2:2	2:1	1st
[LO1] Understand the time and space efficiency of algorithms and how to calculate/estimate/evaluate and improve them. [LO2] Determine an appropriate algorithmic approach to a problem. [LO3] Ability to select from a range of possible options, to provide justification for that selection, and to implement the algorithm in a particular context.	Report (40%)	A basic report which explains the operation of the application as well as the selection of searching and sorting algorithms, but does not go into detail regarding the structure and/or the choices made. The report may not contain the correct sections.	The report explains the operation and structure of the application. The searching and sorting algorithms used in the code are assessed and discussed briefly. The report is correctly formatted.	The report details the operation and structure of the application. The searching and sorting algorithms used in the code are explained and justified in their selection. The report is correctly formatted.	The report fully details the operation and structure of the application. The searching and sorting algorithms used in the application are fully explained and assessed for their use in this application. The report is correctly formatted. Greater marks can be achieved in this section by the comprehensiveness of the report.
[LO1] Understand the time and space efficiency of algorithms and how to calculate/estimate/evaluate and improve them. [LO2] Determine an appropriate algorithmic approach to a problem. [LO3] Ability to select from a range of possible options, to	Implementation of the program, selection of sorting and searching algorithms (60%)	A basic solution that implements searching and sorting operations on an array and provides console output, which is appropriately formatted. One searching and one sorting algorithm are used in the code. The arrays analysed are of 128 length, and the number of steps are shown.	A basic solution that successfully implements searching and sorting operations using the console screen and generates appropriately formatted output. One searching and two sorting algorithms are used in the code. The arrays analysed are of 128 and 256 length, and the number of steps are shown.	An implementation that includes a solution which shows searching and sorting operations on a console output screen. Two searching and three sorting algorithms are used in the code. The arrays analysed are of 128 and 256 length, and the number of steps are shown.	An implementation that includes a solution which shows searching and sorting operations on a console output screen. Two searching and four sorting algorithms are used in the code. The arrays analysed are of 128, 256 and 1024 length, and the number of steps are shown.

provide justification for that selection, and to implement the algorithm in a particular context.			Fair program structure and some code comments are present.	Clear program structure and appropriate comments are present.	The program code is well-structured and commented with high standard naming conventions. The best available searching and sorting algorithms are used to enhance and maximise the effectiveness of the application. Greater marks can be achieved by completing the enhanced additions as set out in the brief.
Weighting	Weighting is indicated on individual criteria.				