CAB301 Assignment 2 Marking Schema and Feedback Sheet

Student Names/Numbers:

Description of algorithms **Marks awarded (out of 3):**	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
	☐ The algorithm is described clearly, succinctly and accurately, including the functionality of the algorithm, how the algorithm works, the input and the output of the algorithm, and assumptions, if any.	☐ The description of the algorithm is clear, but is missing some minor detail in the description of the functionality, how the algorithm works, the input or the output of the algorithm, or assumptions, if any.	☐ The algorithm's description is difficult to follow or is missing essential information, such as the information about how the algorithm works.	☐ The algorithm's description is largely incomplete or inaccurate
Theoretical analysis of the algorithms **Marks awarded (out of 6):** **C1: 3 marks** **C2: 3 marks**	**Very good (5-6)**	**Good (3-4)**	**Fair (1-2)**	**Unsatisfactory (0)**
	☐ The choices of basic operation and input size are clearly identified, well justified, and suitable for both algorithms ☐ The algorithms' predicted average-case efficiencies are explained clearly, succinctly and accurately	☐ The choices of basic operation and input size are clearly identified but the explanation is unclear ☐ The algorithms' predicted average-case efficiencies are described, but are not explained clearly	☐ The choices of basic operation and input size are poorly justified ☐ The algorithms' predicted average-case efficiencies are described incompletely or poorly	☐ The choices of basic operation and input size are inappropriate for these algorithms ☐ The algorithms' predicted average-case efficiencies are not described or are described inaccurately
Implementation of the algorithms **Marks awarded (out of 3):** **C1: 1 mark** **C2: 2 marks**	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
	☐ The programs implement the algorithms faithfully, and the correspondences between features of the algorithms and their programming language implementations are either self-evident or are explained clearly, succinctly and accurately ☐ The program's functional correctness was tested or verified in a clear and appropriate way and the test results are provided and convincing	☐ The programs implement the algorithms faithfully, although some detailed aspects of the correspondence between the programs and the algorithms are unclear ☐ The way in which the program's functional correctness was tested or verified is appropriate, but the test results are not comprehensive	☐ There are unexplained differences between the algorithms and their programming language implementations that could cast doubt on the validity of the experiments ☐ Claims for the program's functional correctness are not fully supported by test results	☐ The programming language implementations are incomplete, or differ from the given algorithms in a way which invalidates the experiments ☐ The program's functional correctness is not demonstrated or verified

Design of experiments	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
Marks awarded (out of 3): **C1: 1.5 marks** **C2: 1.5 marks**	☐ The methodology, tools and techniques for performing the experiments are appropriate and are explained clearly ☐ It is clear how many data points contributed to the graphs of results and how many tests contributed to each data point	☐ The methodology, tools and techniques for performing the experiments are appropriate, but not explained in detail ☐ Graphs of results clearly show distinct data points but it is not clear how many tests contributed to each data point	☐ The methodology, tools and techniques are appropriate, but are not explained at all ☐ Graphs of results don't clearly show individual data points or it is not clear how many tests contributed to the results	☐ The methodology, tools or techniques are inappropriate ☐ It is impossible to tell how many tests or experiments contributed to the final results

Experimental results	**Very good (5-6)**	**Good (3-4)**	**Fair (1-2)**	**Unsatisfactory (0)**
Marks awarded (out of 6): **C1: 1.5 marks** **C2: 1.5 marks** **C3: 1.5 marks** **C4: 1.5 marks**	☐ The way that basic operations are counted is clear and accurate (with respect to the basic operations identified for these algorithms) for both algorithms ☐ Experiments to count the algorithms' basic operations produced clear trends which could be compared meaningfully and the results are explained clearly ☐ The way in which the average execution times of the programs were measured against the problem size is clear and accurate for comparing both algorithms ☐ Experiments to measure the programs' execution times produced clear trends which could be compared meaningfully and the results are explained clearly	☐ The way that basic operations are counted appears to be accurate (with respect to the basic operations identified for these algorithms) but the technique's explanation is unclear in parts ☐ Experiments to count the algorithms' basic operations produced clear trends which could be compared meaningfully but with some large gaps or outliers in the data or unclear explanations ☐ The way in which the execution times of the programs was measured appears to be appropriate but its explanation is unclear in parts ☐ Experiments to measure the programs' execution times produced clear trends which allowed the programs to be compared meaningfully but with some unexplained outliers	☐ The way that basic operations are counted does not allow direct comparison of the algorithms, or may lead to minor inaccuracies ('off-by-one' errors) ☐ Some experimental results for the number of basic operations were produced, but there were too few data points to allow the algorithms to be compared meaningfully ☐ The way in which the execution times of the programs was measured may lead to minor inaccuracies or appears to be inappropriate for direct comparison of the programs ☐ Some experimental results for measuring execution times were produced, but there were too few data points to allow the programs' efficiencies to be compared	☐ The way that basic operations are counted is grossly inaccurate or largely incomplete ☐ The results produced for counting basic operations were insufficient to allow convincing conclusions to be drawn from the experiment ☐ No adequate method is given for comparing the programs' execution times, or the method used is likely to be highly inaccurate ☐ The results produced for measuring execution times were insufficient or too inaccurate to allow convincing conclusions to be drawn from the experiment

Analysis of experimental results **Marks awarded (out of 6):** **C1: 1.5 marks** **C2: 1.5 marks** **C3: 1.5 marks** **C4: 1.5 marks**	**Very good (5-6)**	**Good (3-4)**	**Fair (1-2)**	**Unsatisfactory (0)**
	☐ The experimental results on counting the number of times of the basic operation are presented in a graph and are compared against the theoretical efficiency prediction in detail. Discrepancies between the experimental results and the theoretical results, if any, are discussed. ☐ The experimental results on the execution time of the algorithm are presented in a graph and are compared against the theoretical efficiency prediction in detail. Discrepancies between the experimental results and the theoretical results, if any, are discussed. ☐ The experimental results on counting the number of times of the basic operation for the two algorithms are presented in the same graph and are compared with discussion ☐ The experimental results on the execution time of the algorithm for the two algorithms are presented in the same graph and are compared with discussion	☐ The experimental results on counting the number of times of the basic operation are presented in a graph and are compared against the theoretical efficiency in detail. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on the execution time of the algorithm implementation are presented in a graph, and are compared against the theoretical efficiency predication briefly. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on counting the number of times of the basic operation for the two algorithms are presented in the same graph without discussion. ☐ The experimental results on the execution time of the algorithm implementation for the two algorithms are presented in the same graph without discussion.	☐ The experimental results on counting the number of times of the basic operation are presented in a graph, but are not compared against the theoretical efficiency in detail. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on the execution time of the algorithm implementation are presented in a graph, but are not compared against the theoretical efficiency. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on counting the number of times of the basic operation for the two algorithms are presented in the same graph and there is no comparison. ☐ The experimental results on the execution time of the algorithm implementation for the two algorithms are presented in the same graph, and there is no comparison.	☐ The experimental results on counting the number of times of the basic operation are not presented in a graph properly, and are not compared against the theoretical efficiency. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on the execution time of the algorithm implementation are not presented in a graph properly, and are not compared against the theoretical efficiency. Discrepancies between the experimental results and the theoretical results are not discussed. ☐ The experimental results on counting the number of times of the basic operation for the two algorithms are presented at all and there is no comparison. ☐ The experimental results on the execution time of the algorithm implementation for the two algorithms are presented at all, and there is no comparison.
Quality of written report **Marks awarded (out of 3):** **C1: 1 mark** **C2: 1 mark** **C3: 1 mark**	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
	☐ The report contains no significant errors in spelling, grammar or typography ☐ All reference materials used for the project are cited comprehensively ☐ The report is well organised into sections and contains helpful navigational aids for the reader (headings, cross references, etc) which make the overall 'story' easy to follow	☐ The report contains a few minor errors in spelling, grammar or typography ☐ All reference materials used for the project are listed, but some citations seem to be missing from the text ☐ The report is divided into sections and contains some navigational aids for the reader (headings, cross references, etc), but the overall 'story' is unclear in parts	☐ The report contains several errors in spelling, grammar or typography, but is still readable ☐ A list of reference materials is given but is not clearly linked to the relevant parts of the text by citations or is incomplete ☐ The report is divided into sections but needs to be made easier to follow with additional navigational aids for the reader (clearer headings, more cross references, etc)	☐ The report contains numerous errors in spelling, grammar or typography that make it difficult to read ☐ The list of reference materials used for the project is largely incomplete or inadequate ☐ The report is structured in a confusing way or contains insufficient navigational aids for the reader, making it difficult to follow

Total mark (out of 30):	
Detailed comments: (if any)	
Marker:	