CAB301 Assignment 2 Marking Schema and Feedback Sheet

Student Names:

	Very good (7-8)	Good (5-6)	Fair (3-4)	Unsatisfactory (0-2)
Description of algorithms and theoretical predictions **Marks awarded (out of 8):**	☐ The algorithms are described clearly, succinctly and accurately ☐ 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 algorithms are described clearly, but some minor detail is missing ☐ 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 algorithms' descriptions are difficult to follow or are missing essential information ☐ The choices of basic operation and input size are poorly justified ☐ The algorithms' predicted average-case efficiencies are described incompletely or poorly	☐ The algorithms' descriptions are largely incomplete or inaccurate ☐ 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 algorithm **Marks awarded (out of 8):**	☐ 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 programs implement the algorithms faithfully, although some detailed aspects of the correspondence between the programs and the algorithms are unclear	☐ There are unexplained differences between the algorithms and their programming language implementations that could cast doubt on the validity of the experiments	☐ The programming language implementations are incomplete, or differ from the given algorithms in a way which invalidates the experiments
Quality of written report **Marks awarded (out of 4):**	☐ The report contains no significant errors in spelling, grammar or typography ☐ All reference materials used for the project are cited comprehensively ☐ The computing environment used to develop the programs and perform the experiments is described clearly ☐ 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 description of the computing environment used to develop the programs and perform the experiments is missing some minor details ☐ 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 description of the computing environment used to develop the programs and perform the experiments is missing essential information needed to duplicate the experiments ☐ 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 computing environment used to develop the programs and perform the experiments is not described adequately ☐ The report is structured in a confusing way or contains insufficient navigational aids for the reader, making it difficult to follow

Experimental design and results	**Very good (15-18)**	**Good (10-14)**	**Fair (5-9)**	**Unsatisfactory (0-4)**
Marks awarded (out of 18):	☐ The functional correctness of the programs was tested or verified in a clear and appropriate way, including 'normal' and 'extreme' input cases ☐ It is clear how many data points contributed to the graphs of results and how many tests contributed to each data point ☐ 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 in which the programs were shown to work correctly lacks some minor detail or fails to consider some important input cases ☐ Graphs of results clearly show distinct data points but it is not clear how many tests contributed to each data point ☐ 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	☐ Claims for the programs' functional correctness are not supported by clear test code and convincing test results or other proofs ☐ Graphs of results don't clearly show individual data points or it is not clear how many tests contributed to the results ☐ 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 programs' functional correctness is not demonstrated or verified adequately ☐ It is impossible to tell how many tests or experiments contributed to the final results ☐ 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

You are to be commended for:	Next time you need to work on:

Total mark (out of 40):	