CAB301 Assignment 1 Marking Schema and Feedback Sheet

Student Name:

Description of algorithm	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
Marks awarded (out of 3):	☐ The algorithm is described clearly, succinctly and accurately	☐ The description of the algorithm is clear, but is missing some minor detail	☐ The algorithm's description is difficult to follow or is missing essential information	☐ The algorithm's description is largely incomplete or inaccurate

Implementation of the algorithm	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
Marks awarded (out of 3):	☐ The program implements the algorithm faithfully, and the correspondences between features of the algorithm and its programming language implementation are clear ☐ The program's functional correctness was tested or verified in a clear and appropriate way and the test results are provided and convincing	☐ The program implements the algorithm faithfully, although some aspects of the correspondence between the program and the algorithm 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 algorithm and its programming language implementation that may 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 implementation is incomplete, or differs from the given algorithm in a way which invalidates the experiments ☐ The program's functional correctness is not demonstrated or verified

Experiment design	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
Marks awarded (out of 3):	☐ The methodology, tools and techniques for performing the experiments are appropriate and are explained clearly ☐ The range of the test data sizes and the number of the test data sizes are well chosen, and the test data sets are properly generated	☐ The methodology, tools and techniques for performing the experiments are appropriate, but not explained in detail ☐ The range of the test data sizes and the number of the test data sizes are well chosen, but the test data sets are not properly generated	☐ The methodology, tools and techniques are appropriate, but are not explained at all ☐ The range of the test data sizes or the number of the test data sets are not well chosen, but the test data sets are properly generated	☐ The methodology, tools or techniques are inappropriate ☐ The range of the test data sizes or the number of the test data sets are not well chosen, and the test data sets are not properly generated

Experimental results	**Very good (8 – 9)**	**Good (6 – 7)**	**Fair (3 – 5)**	**Unsatisfactory (0 – 2)**
Marks awarded (out of 9):	☐ The algorithm's basic operation is clearly identified and its choice is well justified ☐ The way that basic operations are counted is clear and accurate (with respect to the basic operations identified for the algorithm) ☐ Enough experiments to count the program's basic operations produced a clear trend which could be compared meaningfully with the algorithm's predicted growth ☐ The way in which the average execution time of the program was measured against the problem size is clear and accurate ☐ Enough experiments to measure the program's execution times produced a clear trend which could be compared meaningfully with the algorithm's predicted growth	☐ The algorithm's basic operation is clearly identified but the explanation for its choice is unclear ☐ The way that basic operations are counted appears to be accurate (with respect to the basic operations identified for the algorithm) but the technique's explanation is unclear in parts ☐ Experiments to count the program's basic operations produced a clear trend for comparison with the predicted growth but with some large gaps ☐ The way in which the execution time of the program was measured appears to be appropriate but its explanation is unclear in parts ☐ Experiments to measure the program's execution times produced a clear trend but with a few unexplained outliers	☐ The algorithm's basic operation is identified but the choice is not justified ☐ The way that basic operations are counted does not appear to match the algorithm, or may lead to minor inaccuracies (e.g., 'off-by-one' errors) ☐ Some experimental results for counting basic operations were produced, but there were too few data points to show a definite trend ☐ The way in which the execution time of the program was measured may lead to minor inaccuracies or appears to be inappropriate ☐ Some experimental results for measuring execution times were produced, but there were too few data points to show a definite trend	☐ The choice of the algorithm's basic operation is inappropriate ☐ The way that basic operations are counted is grossly inaccurate or largely incomplete ☐ The results produced for counting basic operations were insufficient to allow any meaningful conclusions to be drawn from the experiment ☐ No adequate method is given for measuring the program's execution time, or the method used is likely to be highly inaccurate ☐ The results produced for measuring execution times were insufficient or too inaccurate to allow any meaningful conclusions to be drawn from the experiment
Analysis of experimental results	**Very good (8-9)**	**Good (6-7)**	**Fair (3-5)**	**Unsatisfactory (0 – 2)**
Marks awarded (out of 9):	☐ 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 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 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 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 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.

Quality of written report	**Very good (3)**	**Good (2)**	**Fair (1)**	**Unsatisfactory (0)**
Marks awarded (out of 3):	☐ The report contains no significant errors in spelling, grammar or typography ☐ All reference materials used for the project are cited accurately ☐ The computing environment used to develop the program 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 program 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 easy to read ☐ A list of reference materials is given but is not clearly linked to the relevant parts of the text by citations ☐ The description of the computing environment used to develop the program 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 incomplete or inadequate ☐ The computing environment used to develop the program 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 understand

You are to be commended for:		**Next time you need to work on:**	
Total mark (out of 30):		**Marker**	