Success at A453 Controlled Assessment

# Use of Programming Techniques

This mark group is all about attempting the tasks. If you have made a decent attempt at all of the tasks then you are likely to be in the top band

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| **This block is intended to reward realistic attempts at the tasks.** | **0-2 Marks**  This will be student that has only attempted one task. There may be parts of the second and third but there is no code that could be said to be a partially working solution |
| **3-4 Marks**  There must be two working solutions for 4 marks. One of the solutions may be partially working for 3 marks |
| **5-6 Marks**  If a reasonable attempt at all three tasks is given then 5 or 6 marks can be awarded. All three solutions must work for 6 marks |

# Efficient use of programming Techniques

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| This mark block is all about the techniques used in your solutions. All solutions must work for the top band to be awarded. Marks are limited therefore if only one or two solutions are present not matter how good the programming is. | **0-4 Marks**  This band represents a series of partially working solutions not fully solving the problem or one fully working solution only |
| **5-8 Marks**  For this band there should be basic solutions to all three tasks or efficient solutions to two. If all three tasks are attempted then the solutions may be inefficient such as unsuitable variable names or multiple variables |
| **9-12 Marks**  There must be working solutions to all three tasks and need to be reasonably efficient. Top marks are awarded for three solutions with no obvious inefficiencies |

# Design

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| This group is about the quality of the design. For the top band marks there should be:   * Detailed analysis including validation * Detailed Algorithm describing the solution * Suitable success criteria * Test strategy with suitable test data identified for use during development   Working solutions should not ‘fall over’ easily and some validation is required. It is expected that testing will happen throughout the development process. The design should be presented as an algorithm either as a flow chart o as pseudocode (preferably both).  Again marks are limited to band one for only one completed task and mark band two for two completed tasks | **0-3 Marks**  There will be some evidence of planning but this is superficial |
| **4-6 Marks**  There must be some evidence of analysis, some thought given to validation and a set of algorithms. The algorithms define the solution but in general terms and lack detail or may be insufficiently clear.  **Pseudocode that is reversed engineered from code is not accepted**  There is some indication of how the solutions will be tested but this may lack detail for some of the tasks |
| **7-9 Marks**  The design must be complete for all three tasks. A good rule of thumb is that the solution could be given to another programmer to complete the tasks and expect a similar solution without further analysis and design. |

# Development

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| The mark group is about the story of the development process. You will need to show the process including:   * Systematic testing during development * The code needs to annotated * Meaningful variable names should be used * The code needs to be explained indicating the function of each section   This should show how the solutions go from design to finished product using an iterative approach. The whole report should take a narrative style explaining stage by stage how the products were developed and tested | **0-3 Marks**  There is some evidence of a solution but with little explanation of the process. For a single attempt this may be a detailed description of how one solution was achieved. |
| **4-6 Marks**  There will be good evidence of development. There will be annotated code and some explanation of how this was tested during development. There must be sensible variable names but there will be some gaps in he explanation and missing evidence of testing in some sections |
| **7-9 Marks**  There must be clear evidence of iterative development of all three tasks. Fully explained code and evidence of testing at key stages, with corrections fully documented. meaningful variables names and fully annotated code will be provided alongside the other evidence |

# Testing

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| This mark group covers testing **and evaluation** of the product. Testing should have been completed during development. The success criteria and test strategy form the basis for this testing and should be evidenced.  Some post development testing should have been completed. This may include testing by other students.  End user testing needs to be completed and feedback supplied (where appropriate). You should identify weaknesses and make recommendations as to how to deal with these. You may well find that you have time to ‘fix’ any problems that are identified as part of this process before going on to evaluate the solution against the original requirements and success criteria.  The quality of your report is also assessed here. | **0-3 Marks**  There is some evidence of testing but this is limited in scope and completed only after development. For a single task there must be evidence of testing *during* development. The evaluation will be limited to generic comments on the solution. |
| **5-8 Marks**  There will be evidence of testing during development but this may be limited in scope with much of the testing being done after development. There must be evidence of the test results available in the report. Simply stating that that the product was tested is not sufficient. Testing in this section is likely to focus upon showing that the solution worked with little attempt to ‘break it’. Evaluations will refer to the test evidence and attempt to explain how the solution meets the requirements |
| **9-12 Marks**  There will be clear evidence of testing during development fully explained and linked to the success criteria and test strategy. Testing will be extensive and clearly attempt to find flaws in the solution. The evaluation will link the test evidence and the success criteria to evaluate how well the solution matches the requirements |