Part (d)   Testing

Section 1.3 (e) and (f) of the syllabus specifically mention the need for a test plan and for selecting suitable data to test a solution. All the student has to do here is put that theory work into practice. The test plan is essential and is going to be a major part of the project report. The candidate should decide which parts of the project are essential to the successful outcome of the work and devise tests to show that each works. My teacher's mark book will require testing of the input of a new student, testing of inputting a new set of marks (both with marks for all students and also what happens if someone is away), tests on the calculation of the mean (one test when the mean is an integer and one when it is not an integer), test for selection of students who need extra help (tests at <50, >50 and =50). The number of tests necessary will be dependent on the initial definition of the problem. This is a good example of somewhere in the project work where students can check over each other's work and discuss the requirements for testing and the types of test data used. Students should not help each other by doing the work for their colleagues, but a discussion about the types of testing necessary can only help the understanding necessary for both this module and the theory module 1.
A reasonable estimate of the volume of evidence might be a page for the test table and another four pages to show the evidence of the tests (although many will be able to fully test the system with far fewer pages being used).

Evidence required
- A comprehensive test plan, in table form, specifying the reason for the test, the test data to be used, the expected outcome and the actual outcome.
- Differences between the expected outcome and the actual outcome should be explained, and the measures taken to overcome any problems should be outlined. Students should be encouraged to accept discrepancies as a good thing because it shows that the problem was not puerile and it allows the student to demonstrate their ability to analyse problems that arise and find a way around them. If everything works perfectly first time this is not possible.
- Evidence that the tests have been carried out. This will probably be very simple outputs, at the most complicated it will only be simple screen dumps which can be fitted 2 or 4 to a page.