# Testing – 8 Marks:

Read **Chapter 49** (pages 421-422) of the Bob Reeves’stextbook for more help.

Testing demonstrates that you have, or have not, achieved the objectives identified in the analysis; i.e. for you to show that your solution works, it is robust and it provides evidence about the sophistication of the solution.

You should select and provide evidence of testing those aspects which most clearly demonstrate that the project fulfils its purpose.

There is no simple answer to the question of how many tests need to be carried out. Ideally, the tests completed should show that the system developed has fulfilled its purpose and demonstrates to the assessor the scope of the final system.

Testing does not all need to be carried out on the final version of the system. It is acceptable for testing evidence to be gathered during earlier stages in the development of the system. Informal testing during development has a higher chance of failing and this should not cause a student to fail to document this but rather provides an opportunity to discuss, fix and retest.

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| --- | --- |
| **Topic** | **✓** |
| * 1. **Test Strategy**   A paragraph to explain the types of testing carried out and an explanation of the test data used.  Types of testing:   * Tests performed at different stages of the project and a link to any evidence of this. (white box) * Tests for robustness and **completeness** of the solution * Test for **functionality**. (black box/functional) | Explain the audience what kind of testing  Put data in, test output |
| * 1. **Test plan**  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Test No** | **Test Description** | **Test Data** | **Expected Outcome** | **Actual Outcome** | **Comments** | | 1 | Test to check regex for telephone number on Customer Form | Normal: 07253 444 444 | When the test data **is** entered, the data will be accepted and no error message will be displayed. | When the test data **was** entered, the data **was** accepted and no error message **was** displayed. | (Only to be used to:   * if there was a failed test - need to state what corrections you did to sort the issue * to show cross-referenced evidence). |   *If you wish to show a formal correction actions for all failed test, use the following headings in a table: Test No., Remedial Action Taken, Retest (refer to screenshots)* |  |
| * 1. **Test Data**   Test data in test plan/testing should include typical/normal, erroneous and extreme/boundary data. |  |
| * 1. **Testing Evidence (Details of individual tests)**   Samples of annotated hard copy of actual test runs for typical, erroneous and extreme data – before and after screenshots with **annotations to** **explain what is happening in both screenshots**.  Test results **must be cross-referenced** to test plan (Actual Results Column) |  |
| * 1. **Acceptance testing (to be given to end users/target audience)** * Create an acceptance test plan document:  |  |  |  | | --- | --- | --- | | Task / Test description | Successful?  ( or X) | Comments |  * If investigation project, get at least 10 user to complete the test. Otherwise, just get the client and if applicable their users. * Within the acceptance document, you must include a section for comments, test user signature and date. |  |

**Note:**

**Investigative type projects**

This type of project may have outcomes of the system based on unknown input data. For example, if a simulation is produced, the whole purpose of the system might be to see what happens under certain conditions and testing the core processing functions of the project would involve experimentation.

With such projects, there might be some tests with known correct outcomes that could be conducted on the parts of the system that can be predicted. The test evidence could also include examples of runs of the system where the outcome is unknown, and so cannot be specified in a test plan other than as a goal, e.g. the effect of income on life expectancy, together with explanations of what they show. Students attempting such projects should not be penalised for being unable to specify expected outcomes for tests.

**Gaming projects**

Students can record their testing of the game and upload the video to YouTube. You should still have a test plan and provide the YouTube link to evidence your testing. See example: <https://www.youtube.com/watch?v=PdUiXWna87Y>

This section is marked according to two main criteria:

* Clear, well-presented evidence of testing.
* Evidence that the testing proves that the system is robust and works as intended.

To do this, assessor would consider the following questions when marking:

* Does the section demonstrate that thorough testing has been carried out?
* Have the core requirements been tested?
* Is there evidence that the more technically challenging parts of the project have been tested?

<https://www.youtube.com/watch?v=BZkWRPgZ6k0> .

Testing

1. Test strat (normal, error, boundary)
2. White box test evaluation

Just the maze working

1. Black box test plan

The table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test No** | **Test Description** | **Test Data** | **Expected Outcome**  **(future tense** | **Actual Outcome (past tense** | **Comments** |

Corrective action

1. Black box test evidence
2. Proper user-User acceptance testing
3. Video

Timestamp// sound// video link for youtube

1. 15 test audience //suitable for children