3.1 Test Techniques

The main test technique used was functional testing.

At the unit level, functional testing was used to verify drone movement matched the move size and angle requirements, and to ensure no-fly zones were avoided. These tested checked observable behaviour against requirements.

Functional integration tests were used to ensure that the individual movement units combined correctly to form a valid 2D paths and that the A-star pathfinding algorithm produced paths that matched all movement constraints. Integration with the external ILP REST service was also validated functionally by storing retrieved data in appropriate data structures and verifying that the size of the retrieved dataset matched the expected values obtained through manual inspection of the source data.

At the system level, end-to-end functional requirements were used to validate the behaviour of the entire system, including correct JSON output and verifying that tasks completed in under 30 seconds.

Other testing techniques discussed in lectures were not explicitly applied, as they were not appropriate given the nature of the requirements and the project scope.