3.4 - Evaluation of the results

The observed test results provide strong evidence that the implementation satisfies the functional requirements selected in LO 1.x. The repeated execution of system and integration tests using randomly generated delivery locations increases the likelihood/confidence that the implementation behaves correctly - as the testing is across a range of realistic inputs around Edinburgh rather than a single fixed test case.

The consistent success of the response time test indicates that the performance of the REST service is more than acceptable for the ILP coursework - however it would be too low in a real-world setting where more than 9 deliveries are being made at once. This highlights both an area of success (the scope of the ILP coursework) and an area for improvement (the real world or a coursework with a heavier focus on performance rather than optimality).

The integration level results indicate that flight paths returned by my service are both structurally and semantically correct, with all medical dispatches delivered, and the delivery routes starting and ending at the same service point.

Unit level tests created by breaking down an integration level test further reinforce the conclusion that the path generation is correct, with the paths aligning with the movement constraints restricting movement angle, distance, and no-fly zone avoidance.

Whilst these results provide high confidence for the scope of a coursework where all inputs are were guaranteed to be "nice" (e.g. an unreachable delivery location), the tests do not guarantee correctness under all possible conditions. In particular, the use of randomly generated points for all of my tests doesn't exhaustively cover edge cases, and can only provide a general confidence. Additionally, negative testing was not covered, despite being briefly mentioned in the Test Planning Document.

Overall, the results are sufficient within the limitations of the ILP coursework to demonstrate that the system meets the requirements selected in LO 1.x, behaving correctly and predictably under the expected conditions, whilst also clearly identifying areas that would require both further testing and improvement if this project were to be taken further.