Test Plan

1. **Introduction**

**The project being tested involves a mapping and routing system designed to simulate the addition of routes to a base map. This system includes functionalities for populating the map with buildings, defining routes, and adding these routes to the map for visualization.**

**The primary objective of this test plan is:**

* **verify the correctness and robustness of these functionalities, ensuring that the map and routes are accurately created, routes are properly added to the map, and the system behaves as expected under various scenarios.**

**The testing aims to identify any defects or issues and ensure the software meets the specified requirements.**

1. **Scope**

a. What Will Be Tested

• The creation and population of the base map with buildings.

• The definition and retrieval of specific routes (blue, green, and yellow).

• The shortest path calculation between two points on the map.

b. What Will Not Be Tested

• Advanced routing algorithms beyond the provided implementations.

1. **Environment Requirements**
   1. Hardware Requirements:
      1. Test computer with at least 4GB of RAM.
      2. Processor: Apple (ARM-based) or Intel
   2. Software Requirements:
      1. Operating System: Windows, macOS or any Unix-based OS
      2. Compiler: GCC or Clang
      3. Testing Tools: Built-in C standard libraries and any additional tools required for automated testing.
   3. Test Harness:
      1. Microsoft CppUnitTest framework or other pre-existing set of testing tools such as CUnit or Unity for C.
      2. Custom test scripts to automate the execution of the test cases.
2. **Test Schedule**
   1. **Milestone 2:**
      1. **Setup the test environment.**
      2. **Write initial test cases for basic functionalities (e.g., map population, route creation).**
   2. **Milestone 3:**
      1. **A set of Blackbox tests as test documents (in an Excel file).**
      2. **Test data for the functions created at MS3.**
   3. **Milestone 4:**
      1. **Finish implementing/coding the functions.**
      2. **Whitebox tests.**
   4. **Milestone 5:**
      1. **Integration tests document.**
   5. **Milestone 6:**
      1. **Final testing report listing tested conducted.**