# Test Description

**Test Name or ID**: T1 – T12

**Test Type**: Acceptance

**Description**: Acceptance tests validate whether the program functions correctly according to client’s business requirements. The expected behaviors for each of the anticipated real world inputs are defined in the test scenarios section. Only cases that might be encountered in everyday business scenarios are tested, as it is expected that other forms of testing have already eliminated unexpected program behaviors.

**Setup:** Clone the project repository, open the solution in Visual Studio, build the solution, and run the main.c file.

**Test Function**: main()

**Test Scenarios:**

**1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| T001 - R001: Test with weight below the limit. | Weight: 2600  Box size: 1  Destination: 8Y | Invalid weight (must be 1-2500 Kg.) | Invalid weight (must be 1-2500 Kg.) | Pass |
| T002 - R001: Test with weight above the limit. | Weight: 0  Box size: 1  Destination: 8Y | Invalid weight (must be 1-2500 Kg.) | Invalid weight (must be 1-2500 Kg.) | Pass |
| T003 - R002: Test with non-standard box size. | Weight: 1000  Box size: 4  Destination: 8Y | Invalid size | Invalid size | Pass |
| T004 - R002: Test with standard box size. | Weight: 10  Box size: 3  Destination: 8Y | Ship on GREEN LINE, divert: 7T, 7U, 7V, 7W, 7X, 7Y, 8Y | Ship on GREEN LINE, divert: 7T, 7U, 7V, 7W, 7X, 7Y, 8Y | Pass |
| T005 - R003: Test with destination out of bounds. | Weight: 1000  Box size: 1  Destination: 30B | Invalid destination | Invalid destination | Pass |
| T006 - R003: Test with destination out of bounds. | Weight: 1000  Box size: 1  Destination: 10Z1 | Invalid destination | Invalid destination | Pass |
| T007 - R004: Test with valid weight, size, and address. | Weight: 1000  Box size: 1  Destination: 2U | Ship on GREEN LINE, no diversion | Ship on GREEN LINE, no diversion | Pass |
| T008 - R004: Test with valid weight, size, and address. | Weight: 10  Box size: 1  Destination: 13L | Ship on BLUE LINE, no diversion | Ship on BLUE LINE, no diversion | Pass |
| T009 - R005: Test to check if truck assigned has least detour to deliver | Weight: 1000  Box size: 1  Destination: 25U | Ship on YELLOW LINE, divert: 20U, 21U, 22U, 23U, 24U, 25U | Ship on YELLOW LINE, divert: 20U, 21U, 22U, 23U, 24U, 25U | Pass |
| T010 - R005: Test to check if truck assigned has least detour to deliver | Weight: 15  Box size: 1  Destination: 13B | Ship on YELLOW LINE, no diversion | Ship on YELLOW LINE, no diversion | Pass |
| T011 - R006: Test when the truck load reaches full capacity and new package gets delivered to same destination. | { Weight: 2500  Box size: 5  Destination: 8K,  Weight: 1000  Box size: 1  Destination: 8K } | Ship on GREEN LINE, divert: 1A, 1B, 1C, 1D, 2D, 3D, 4D, 4E, 4F, 4G, 4H, 5H, 5I, 6I, 6J, 7J, 7K, 8K  Ship on BLUE LINE, no diversion | Ship on GREEN LINE, divert: 1A, 1B, 1C, 1D, 2D, 3D, 4D, 4E, 4F, 4G, 4H, 5H, 5I, 6I, 6J, 7J, 7K, 8K  Ship on BLUE LINE, no diversion | Pass |
| T012 - R007: Test the exit condition of the program. | Weight: 0  Box size: 0  Destination: x | Thanks for shipping with Seneca Polytechnic! | Thanks for shipping with Seneca Polytechnic! | Pass |

**Bugs Found**:

No bugs found dictate during these test cases.