# Test Description

**Test Name or ID**: T001 – T007

**Test Type**: White Box Testing

**Description**: To compute the distance between two locations and update the minimum distance value.

**Setup:** To carry out testing of this function, linking to the Visual Studio Unit Testing template was performed and Assert::AreEqual method was used.

**Test Function**: double returnDistance(const int loc1[2], const int loc2[2], double\* minDest)

**Test Scenarios:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TestID | Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| T001 | Both locations have the same coordinates | Loc1 = {3,4}  Loc2 = {3,4}  minDestination = 5.0 | 0.0 | 0.0 | Passed |
| T002 | Locations are on the same horizontal line | Loc1 = {2,4}  Loc2 = {8,4}  minDestination = 5.0 | 6.0 | 6.0 | Passed |
| T003 | Locations are on the same vertical line | Loc1 = {5,3}  Loc2 = {5,9}  minDestination = 8.0 | 6.0 | 6.0 | Passed |
| T004 | Locations form a right-angled triangle | Loc1 = {2,2}  Loc2 = {5,6}  minDestination = 10.0 | 5.0 | 5.0 | Passed |
| T005 | Locations are at arbitrary coordinates | Loc1 = {0,0}  Loc2 = {10,10}  minDestination = 15.0 | 14.14213562 | 14.14213562 | Passed |
| T006 | Locations are at arbitrary coordinates | Loc1 = {0,0}  Loc2 = {3,4}  minDestination = 5.0 | 5 | 5 | Passed |
| T007 | Null pointer | Loc1 = {0,0}  Loc2 = {10,10}  minDestination = nullptr | -1 | -1 | Passed |

**Bugs Found**: Not yet found.