# Test Description

**Test Name or ID**: Blackbox - getClosestPoint

**Test Type:** Black box

**Description:** This function returns the integer which is index of the Struct Point array. The index is the closest point of location received from Struct Route with the incoming target Point. Find the most efficient route for delivery.

**Setup:** Make sure each route of truck is ready for implement, starting point & destination are well defined. Make sure struct Point (Map) are well developed.

**Test Function**: int getClosestPoint(const struct Route\* route, const struct Point pt)

Description: This function receives 2 parameters, which are route of truck and compare it with Point array.

**Test Scenarios:**

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| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Check if blue route is available within grid | Params  Route \*route = &blueRoute Point pt = point {5, 6} | 10 | 10 | pass |
| Check if green route is available within grid | Params  Route \*route = &greenRoute  Point pt = point {5,6} | 10 | 10 | pass |
| Check if yellow route is available within grid | Params  Route \*route = &yellowRoute  Point pt = point {5,6} | 8 | 8 | pass |
| Check if point out of grid | Params  Route \*route = &blueRoute Point pt = point {30, 12} | 29 | 29 | pass |
| Check if point is NULL | Params  Route \*route = &blueRoute Point pt = point {NULL, 12} | 20 | 20 | pass |
| Check if route is NULL | Params  Route \*route = NULL Point pt = point {5,6} | Error | Error | Pass |
|  |  |  |  |  |

**Bugs Found**:

* This function doesn’t have exception thrown for out of grid input. It needs to consider in user input function.