# Test Description

**Test Name or ID**: CreateTruck Whitebox Test

**Test Type**: White Box

**Description**: This function creates an object of type Truck. The parameters are used to initialize the attributes of the newly created Truck. The function returns 0 if the creation succeeds; otherwise, it returns -1. This function determines whether the volume of the truck is greater than or equal to 0 and less than MAX\_VOLUME, and whether the weight of the truck is greater than or equal to 0 and less than MAX\_WEIGHT. Therefore, we tested the function with boundary values, valid values, and invalid values as parameters to verify if the function works as intended.

**Setup:** MAX\_VOLUME = 26, MAX\_WEIGHT = 1000

**Test Function**: CreateTruck

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WCT01 | WCT01 | 0 | -1 | Fail |
| Whitebox testing using test data WCT02 | WCT02 | -1 | -1 | Pass |
| Whitebox testing using test data WCT03 | WCT03 | -1 | -1 | Pass |
| Whitebox testing using test data WCT04 | WCT04 | -1 | -1 | Pass |
| Whitebox testing using test data WCT05 | WCT05 | -1 | -1 | Pass |
| Whitebox testing using test data WCT06 | WCT06 | -1 | -1 | Pass |
|  |  |  |  |  |

**Bugs Found**:

Function is only returning -1.

# Test Description

**Test Name or ID**: FindClosestTruck

**Test Type**: White Box

**Description**: This function finds the closest truck to the destination of the package. The function returns an integer type that represents the index of the truck that will be used for shipping the package. If the truck cannot ship the package because of an invalid destination of the package is too big for the truck, then return -1. This test examines both valid and invalid destination values. In the case of a valid destination value, it verifies whether the function correctly returns the index of the closest truck.

**Setup:**

**Test Function**: FindClosestTruck

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WFC01 | WFC01 | 2 | 2 | Pass |
| Whitebox testing using test data WFC02 | WFC02 | -1 | 1 | Fail |
| Whitebox testing using test data WFC03 | WFC03 | -1 | -1 | Pass |
| Whitebox testing using test data WFC04 | WFC04 | 0 | 1 | Fail |
| Whitebox testing using test data WFC05 | WFC05 | -1 | 1 | Fail |
| Whitebox testing using test data WFC06 | WFC06 | 1 | 1 | Pass |
|  |  |  |  |  |

**Bugs Found**:

# Test Description

**Test Name or ID**: FindTruckForShipment Whitebox Test

**Test Type**: White Box

**Description**: This function finds the best truck for shipping the package. It considers looking for the closest truck to the destination and the truck that has the most space which can fit the package. The function returns an integer type that represents the index of the truck that will be used for shipping the package. If the truck cannot ship the package because of an invalid destination or the package is too big for the truck, then return -1. This test examines both valid and invalid destination values. In the case of a valid destination value, it verifies whether the function correctly returns the index of the closest and available truck.

**Setup:**

**Test Function**: FindTruckForShipment

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WFT01 | WFT01 | 1 | 0 | Fail |
| Whitebox testing using test data WFT02 | WFT02 | -1 | 0 | Fail |
| Whitebox testing using test data WFT03 | WFT03 | -1 | 0 | Fail |
| Whitebox testing using test data WFT04 | WFT04 | -1 | 0 | Fail |
| Whitebox testing using test data WFT05 | WFT05 | 0 | 0 | Pass |
| Whitebox testing using test data WFT06 | WFT06 | 0 | 0 | Pass |
| Whitebox testing using test data WFT07 | WFT07 | -1 | 0 | Fail |
| Whitebox testing using test data WFT08 | WFT08 | -1 | 0 | Fail |

**Bugs Found**:

Function is only returning 0.

# Test Description

**Test Name or ID**: addPackageToTruck Whitebox Test

**Test Type**: White Box

**Description**: This function checks if the package can fit into the truck. If the package can fit into the truck then add the package to the truck. The function returns an integer type that represents the successful loading of the package. If the package has been successfully loaded onto the truck, then return 0, otherwise return -1. This function checks if the truck's weight and volume have reached their limit values. Therefore, this test examines the boundary values, valid values, and invalid values to verify the function's behavior in each case.

**Setup:** MAX\_VOLUME = 26, MAX\_WEIGHT = 1000

**Test Function**: addPackageToTruck

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WPT01 | WPT01 | 0 | -1 | Fail |
| Whitebox testing using test data WPT02 | WPT02 | -1 | -1 | Pass |
| Whitebox testing using test data WPT03 | WPT03 | -1 | -1 | Pass |
| Whitebox testing using test data WPT04 | WPT04 | -1 | -1 | Pass |
| Whitebox testing using test data WPT05 | WPT05 | 0 | -1 | Fail |
| Whitebox testing using test data WPT06 | WPT06 | -1 | -1 | Pass |
|  |  |  |  |  |

**Bugs Found**:

Function is only returning -1.

# Test Description

**Test Name or ID**: IsValidSize Whitebox Test

**Test Type**: White Box

**Description**: This function validates the size(volume) of package entered by the client. The function returns 0 if the volume is valid, otherwise it returns -1. This test examines the boundary values, valid values, and invalid values to verify the function's behavior in each case.

**Setup:** size must equal to 0.25, 0.5, or 1

**Test Function**: IsValidSize

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WVS01 | WVS01 | 0 | 0 | Pass |
| Whitebox testing using test data WVS02 | WVS02 | 0 | 0 | Pass |
| Whitebox testing using test data WVS03 | WVS03 | 0 | 0 | Pass |
| Whitebox testing using test data WVS04 | WVS04 | -1 | -1 | Pass |
| Whitebox testing using test data WVS05 | WVS05 | -1 | -1 | Pass |
|  |  |  |  |  |
|  |  |  |  |  |

**Bugs Found**:

# Test Description

**Test Name or ID**: IsValidWeight Whitebox Test

**Test Type**: White Box

**Description**: This function validates the weight of package entered by the client. The function returns 0 if the weight is valid, otherwise it returns -1. This test examines the boundary values, valid values, and invalid values to verify the function's behavior in each case.

**Setup:**

**Test Function**:

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WVW01 | WVW01 | -1 | -1 | Pass |
| Whitebox testing using test data WVW02 | WVW02 | 0 | 0 | Pass |
| Whitebox testing using test data WVW03 | WVW03 | -1 | -1 | Pass |
| Whitebox testing using test data WVW04 | WVW04 | 0 | 0 | Pass |
| Whitebox testing using test data WVW05 | WVW05 | -1 | -1 | Pass |
|  |  |  |  |  |
|  |  |  |  |  |

**Bugs Found**:

# Test Description

**Test Name or ID**: IsValidDestination

**Test Type**: White Box

**Description**: This function validates the destination of package entered by the client. The function returns 0 if the destination is valid, otherwise it returns -1. This test examines the boundary values, valid values, and invalid values to verify the function's behavior in each case.

**Setup:**

**Test Function**: IsValidDestination

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Whitebox testing using test data WVD01 | WVD01 | 0 | 0 | Pass |
| Whitebox testing using test data WVD02 | WVD02 | 0 | 0 | Pass |
| Whitebox testing using test data WVD03 | WVD03 | -1 | -1 | Pass |
| Whitebox testing using test data WVD04 | WVD04 | -1 | -1 | Pass |
| Whitebox testing using test data WVD05 | WVD05 | -1 | -1 | Pass |
| Whitebox testing using test data WVD06 | WVD06 | -1 | -1 | Pass |
| Whitebox testing using test data WVD07 | WVD07 | -1 | -1 | Pass |
| Whitebox testing using test data WVD08 | WVD08 | -1 | -1 | Pass |

**Bugs Found**: