# Test Description

**Test Name or ID**: T006 - T010

**Test Type**: Black box

**Description**: The purpose of this function is to find a truck that is big enough to hold the shipment.

A truck is full when it hits either its maximum weight or maximum volume – whichever is reached first.

For example, if a truck already has 900 kilograms in it but only has 10 cubic meters of boxes.

then the limiting factor must be taken as the weight. If another truck has 30 cubic meters of boxes

but only 200 kilograms of cargo, then you must assume that it is limited in space rather than weight.

When you compare two trucks to see which one has the most space remaining, we should look at the limiting factor for each truck as a percentage and compare the percentages.

If the limiting factor is greater than the volume or weight left for the truck, the function will return 1; otherwise, it will return 0. Additionally, if it returns 1, the function will subtract the weight from weightLeft and decrease the value of volumeLeft of the truck.

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

**Test Function**: int checkTruckIsEmpty(const double weight, int volume, struct TruckDetail truck);

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| The weight of the shipment is greater than the remaining weight capacity of the truck. | weight: 1100  volume: 20  truck: { volumeLeft: 25, weightLeft: 1000 } | FALSE | (TBC) | (TBC) |
| The volume of the shipment is greater than the remaining volume capacity of the truck. | weight: 500  volume: 40  truck: { volumeLeft: 35, weightLeft: 800 } | FALSE | (TBC) | (TBC) |
| The weight of the shipment is less than the remaining weight capacity of the truck, and the volume of the shipment is less than the remaining volume capacity of the truck. | weight: 700  volume: 15  truck: { volumeLeft: 20, weightLeft: 900 } | TRUE | (TBC) | (TBC) |
| The weight of the shipment is equal to the remaining weight capacity of the truck. | weight: 1000  volume: 25  truck: { volumeLeft: 30, weightLeft: 1000 } | TRUE | (TBC) | (TBC) |
| The volume of the shipment is equal to the remaining volume capacity of the truck. | weight: 400  volume: 30  truck: { volumeLeft: 30, weightLeft: 600 } | TRUE | (TBC) | (TBC) |

**Bugs Found**: Not yet found.