# Test Description

**Test Name or ID**: BB\_getSpaceRemaining

**Test Type**: Black Box

**Description**: To ensure the function returns the correct limiting factor of a Truck, either the Truck’s remaining weight or remaining value.

**Setup:**

1. Copy the Truck struct (parameter).
2. Ensure that the Truck struct has values assigned to CurrentWeight and CurrentVolume.
3. Call getSpaceRemaining with the copied Truck struct argument.
4. Define a double value for the limiting factor we expect to be returned.
5. Create assertions to compare the return value with the expected value and validate the returned limiting factor.

**Test Function**: BB\_GetSpaceRemaining

**Test Scenarios:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Test Data | Expected Result | Actual Result | Pass/Fail |
| Check function returns the correct result if CurrentWeight and CurrentVolume values are within range. | truck.CurrentWeight = 800  truck.CurrentVolume = 24 | 0.3333 |  |  |
| Check function returns the correct result if CurrentWeight is at max value and CurrentVolume is within range. | truck.CurrentWeight = 1000  truck.CurrentVolume = 24 | 0.3333 |  |  |
| Check function returns the correct result if CurrentWeight is within range and CurrentVolume is at max. | truck.CurrentWeight = 800  truck.CurrentVolume = 36 | 0.2 |  |  |
| Check function returns the correct result if CurrentWeight is 0 and CurrentVolume is within range. | truck.CurrentWeight = 0  truck.CurrentVolume = 24 | 0.3333 |  |  |
| Check function returns the correct result if CurrentWeight is within range and CurrentVolume is at 0. | truck.CurrentWeight = 800  truck.CurrentVolume = 0 | 0.2 |  |  |
| Check function returns the correct result if CurrentWeight and CurrentVolume values are at max. | truck.CurrentWeight = 1000  truck.CurrentVolume = 36 | 0 |  |  |
| Check function returns the correct result if CurrentWeight and CurrentVolume values are 0. | truck.CurrentWeight = 0  truck.CurrentVolume = 0 | 1 |  |  |
| Check function returns the correct result if CurrentWeight and CurrentVolume values are odd. | truck.CurrentWeight = 801  truck.CurrentVolume = 25 | 0.199 |  |  |
| Check function returns the correct result if CurrentWeight is odd and CurrentVolume is even. | truck.CurrentWeight = 801  truck.CurrentVolume = 24 | 0.199 |  |  |
| Check function returns the correct result if CurrentWeight is even and CurrentVolume is odd. | truck.CurrentWeight = 800  truck.CurrentVolume = 25 | 0.2 |  |  |

**Bugs Found**:

Description of each bug found above and how to reproduce it.