# Integration Tests

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| mapping.h |
| validateSize  validateWeight  validateAddress  findTruckForShipment |

We use validateSize, validateWeight, validateAddress to validate user input for shipment. Once the shipment meets the requirements, the program will call findTruckForShipment function to test.

0 = Blue 1 = Green 2 = Yellow

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| -1 = invalid shipment Integration  Test # | Description | Test Data | Expected Result |
| T01 | Tests with all valid variables and package destination closest to yellow truck | struct Truck Truck1[NUMTRUCKS] = {{1000, 36, 'B'},  {1000, 36, 'G'},  {1000, 36, 'Y'},  Weight = 10  Size = 1  Destination = 22B | 2 |
| T02 | Tests with all valid variables and package destination closest to blue truck | struct Truck Truck1[NUMTRUCKS] = {{1000, 36, 'B'},  {1000, 36, 'G'},  {1000, 36, 'Y'},  Weight = 10  Size = 1  Destination = 12L | 0 |
| T03 | Tests with all valid variables and package destination closest to green truck | struct Truck Truck1[NUMTRUCKS] = {{1000, 36, 'B'},  {1000, 36, 'G'},  {1000, 36, 'Y'},  Weight = 10  Size = 1  Destination = 7S | 1 |
| T04 | Test same distance, different availability | struct Truck Truck1[NUMTRUCKS] = {{700, 35, 'B'},  {800, 35, 'G'},  {900, 35, 'Y'},  Weight = 10  Size = 1  Destination = 3C | 2 |
| T05 | Test same distance, different availability | struct Truck Truck1[NUMTRUCKS] = {{700, 35, 'B'},  {700, 34, 'G'},  {700, 33, 'Y'},  Weight = 10  Size = 1  Destination = 3C | 0 |
| T06 | One truck not available | struct Truck Truck1[NUMTRUCKS] = {{400, 35, 'B'},  {700, 34, 'G'},  {700, 33, 'Y'},  Weight = 500  Size = 1  Destination = 14U | 1 |
| T07 | All full | struct Truck Truck1[NUMTRUCKS] = {{0, 3, 'B'},  {0, 4, 'G'},  {0, 3, 'Y'},  Weight = 500  Size = 1  Destination = 14U | -1 |
| T08 | Enough size/not enough weight | struct Truck Truck1[NUMTRUCKS] = {{500, 3, 'B'},  {100, 4, 'G'},  {0, 3, 'Y'},  Weight = 500  Size = 1  Destination = 13U | 0 |
| T09 | Enough weight/not enough size | struct Truck Truck1[NUMTRUCKS] = {{700, 1, 'B'},  {700, 0.5, 'G'},  {0, 3, 'Y'},  Weight = 500  Size = 1  Destination = 13U | 0 |

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| T10 | Enough weight/not enough size | struct Truck Truck1[NUMTRUCKS] = {{500, 0.25, 'B'},  {500, 0.25, 'G'},  {500, 0.25, 'Y'},  Weight = 500  Size = 1  Destination = 13U | -1 |
| T11 | Enough weight/not enough size | struct Truck Truck1[NUMTRUCKS] = {{100, 1, 'B'},  {100, 1, 'G'},  {100, 1, 'Y'},  Weight = 500  Size = 1  Destination = 13U | -1 |