NAME: validateSize  
Description: validates user input for shipment size. it must be one of the following values: 0.25, 0.5, or 1.  
Parameters: double size  
return: int value for whether the size value is valid or not

NAME: validateWeight

Description: validates user input for shipment weight. shipment weight must be between 1 and 1000.

Parameters: double weight  
return: int value for whether the weight value is valid or not

NAME: validateAddress  
Description: validates user input for shipment address. address must fall within map area (1A to 25Y)  
Parameters: int y, char x  
return: int value for whether the address value is valid or not.

NAME: checkCapacity

Description: checks that the truck parameter has enough capacity to hold this shipment

Parameters:   
Truck struct  
shipment struct

Returns: int value representing whether the truck has enough capacity.

NAME: findTruckForShipment   
Description: Finds the best truck for a shipment. It considers both the load on the truck, the size and weight of the shipment, and the route of the truck to try to place it on a truck which goes closest to the destination. It first checks that there exists a truck that can hold the shipment, and removes any that cannot from consideration. It validates that the shipment address is within our company's delivery area.  It calls the getclosestpoint function to determine the closest point on each route to the destination, then calls the shortestpath function to determine which truck has the shortest path and eliminate all trucks that cannot make the delivery due to buildings blocking their path forward. If two trucks would be equidistant from the delivery point, the function then sorts by available capacity remaining to choose a truck. If there is no truck that can deliver the shipment, it returns -1.  
Parameters:   
Map – the map of the delivery area with buildings on it.   
Trucks[] – an array of trucks including the route for each of the trucks   
numTrucks – the number of trucks in the array of trucks   
shipment – a data struct contain the size and weight of the shipment