SFT 221 Project Analysis

1. Create a structure to represent a truck with its attributes like weight, volume, and route.
2. Create a structure to represent a package with its attributes like weight, size, and destination.
3. Implement an algorithm using Euclidean geometry. to find the shortest path between two points, considering the buildings as obstacles. Algorithm will have to also include diversion of trucks.
4. Create a function to compare trucks based on their available weight (weight full at max of 1000kg) and volume (truck is full at max 30 cubic meters), returning the truck with the most space remaining. Placement of the package given to the truck with the shortest distance to the destination.
5. Function to update truck capacity.
6. A function to read package information, weight, size, and destination. Weight in kg, box size in cubic meters must be 0.25, 0.5 or 1.0 and destination in coordinate rows between 1 to 25 and column is an alphabet that is not z and not stop condition.

Main file should:

1. Read the package information: weight, size, and destination.
2. Check if any truck can carry the package based on weight and volume.
3. Find the closest truck to the destination, considering the shortest path.
4. If multiple trucks are equally close, choose the truck with the most available space.
5. Update the truck's capacity with the package's weight and volume.
6. If no truck can carry the package, print "Ships tomorrow."
7. Continue processing packages until all trucks are full or no more packages arrive.  
   Print the truck's route, delivery location, and diversion path, if any.
8. End the program.