1 Problem Overview

- Sort and order packages onto truck
- Determine packages that can be delivered on time.
    - Driver has 8 hours to return to warehouse.
- Determine and deliver driving directions from currently location to driver for next address.

2 Classes

2.1 Package

- UUID
  - Each package exists as **one package object** in the system
- Package pointers to two client objects
  - Sender Client
  - Receiver Client
- Structure to hold packages currently
  - In the warehouse
  - On the truck
- Packages have a priority
  - Overnight
  - Two day
  - Regular

2.2 Clients

- Separate client information from packages
- Client object should represent one physical client.
- Each client (sender/receiver) points to one or multiple packages.
  - Separate sent package pointers
  - Separate received package pointers

3 Trucks

- Trucks have a weight limit.
- Trucks, and drivers, have 8 hours to return to the warehouse after start.

4 City

- City is divided into quadrants.
  - Streets North of center (Main Street) are numbered sequentially (1st Street North, 2nd Street North, etc.)
  - Streets South of center (Main Street) are numbered as (1st Street South, 2nd Street South, etc.)
  - Avenues West of center (Central Avenue) are numbered as (1st Avenue West, etc)
  - Similar for East of Central Avenue.
- Assume truck can drive one block per minute.
  - Stops take 5 minutes.

5 Program Overview

- Make file

5.1 Structures

5.1.1 Map

- Collection of nodes with edge weights as grid driving distance (truck and only go north/south or east/west.)
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