

Part 1 Purpose: To map out the scheme of the simulation, which involves establishing classes and functions within those classes that will run the simulation.

Part 2 Purpose: To implement the code to perform the simulation using the classes that were defined in Part 1.

Files:

Order.h: Written by Max Bernstein and Erica Schwartz, which declares the Order struct that will hold each order and is used the the Orderqueue class.

Orderqueue.h: The header file that contains all function declarations, a class description, and a declaration of private variables for the Orderqueue class.

Orderqueue.cpp: The file with the code for the Orderqueue class. Contains the functions that will allow the simulation to enqueue and dequeue, as well as determine if a queue is empty. Also contains the functions that print the end results and returns the number of orders in the queue.

Warehouse.h: The header file containing all function declarations, a class description, and a declaration of private variables for the Warehouse class.

Warehouse.cpp: The file that controls the simulation. Includes a run function that calls the necessary functions from Packing, Retrieving, Orderqueue and its own helper functions to create a "run" function that performs the simulation. Warehouse.cpp has it's own Orderqueue, called "wq" and the wq is an Orderqueue of Orders that are parsed from the input file. The orders are then fetched from the wq and send to retrieval, which are then sent to be packed and shipped. Time is also accounted for in the Warehouse and is incremented everytime that the loops in "run" runs.

Packing.h: The header file containing all function declatations, a class description, and a declaration of private variables for the Packing class.

Packing.cpp: The file that controls the packaging units. Each Packaging unit contains an Orderqueue of orders. The functions in this file allow for dequeuing from the packaging queue, getting the data from the first order in the queue, determining if the order is ready to be shipped, and if a packaging queue is empty.

Retrieving.h: The header file containing all functions declarations, a class description, and a declaration of private variables for the Retrieving class.

Retrieving.cpp: The file that contains the code to fetch an order from the warehouse queue.

Parser.h: The header file containing all of the function declarations, a class description, and a declaration of the private variables in the Parser class.

Parser.cpp: The file that contains the code that parses an input file into a queue of orders.