

Region



Data
Structure

Normal Orders

Linked List

* In list, it is easy to remove from middle. And normal orders only may be cancelled or promoted, so we have to search for order, and search is easy in list and to avoid shifting we use linked list.

Frozen

Queue

* frozen orders don't need any remove or insert in middle just I add frozen order in last or remove from first as orders that arrive first should be serviced first like Queue "FIRST IN FIRST OUT"

VIP Orders

Priority Queue

* VIP orders with higher priority must be serviced first. So we use priority queue to help us to arrange VIP orders according to their priority depend on "equation of priority".

Normal Motors ,
Frozen Motors,
VIP Motors

Priority Queue

*in motors, motor after deliver an order may come back first so it will have the priority to assign an order, as motor will be available after "serve time (the time spent in the distance between the restaurant and the customer)"+ "Finish time (the time step at which the order is successfully delivered to the customer)".

Delivered Order

Queue

*We may use it in phase 2 to calculate finish time

Restaurant



Main Orders

Linked list

* we have to find normal orders in main orders to be canceled or be promoted and in list searching is easy and we use linked list to avoid shifting, we insert arrival orders in it and remove orders from it in case of cancellation normal orders as inserting and removing are easy in linked list.