

1.

Time is 0: Frequent Flyer arrival, new queue size is 1
Time is 0: Regular Passenger arrival, new queue size is 1
Time is 0: Serving Frequent Flyer with time stamp 0, service time is 3
Time is 1: Frequent Flyer arrival, new queue size is 1
Time is 1: Regular Passenger arrival, new queue size is 2
Time is 3: Regular Passenger arrival, new queue size is 3
Time is 3: Serving Frequent Flyer with time stamp 1, service time is 4
Time is 5: Regular Passenger arrival, new queue size is 4
Time is 7: Regular Passenger arrival, new queue size is 5
Time is 7: Serving Regular Passenger with time stamp 0, service time is 1
Time is 8: Frequent Flyer arrival, new queue size is 1
Time is 8: Regular Passenger arrival, new queue size is 5
Time is 8: Serving Frequent Flyer with time stamp 8, service time is 4
Time is 10: Regular Passenger arrival, new queue size is 6
Time is 11: Regular Passenger arrival, new queue size is 7
Time is 12: Frequent Flyer arrival, new queue size is 1
Time is 12: Serving Frequent Flyer with time stamp 12, service time is 2
Time is 13: Regular Passenger arrival, new queue size is 8
Time is 14: Regular Passenger arrival, new queue size is 9
Time is 14: Serving Regular Passenger with time stamp 1, service time is 1
Time is 15: Frequent Flyer arrival, new queue size is 1
Time is 15: Regular Passenger arrival, new queue size is 9
Time is 15: Serving Frequent Flyer with time stamp 15, service time is 2
Time is 16: Regular Passenger arrival, new queue size is 10
Time is 17: Regular Passenger arrival, new queue size is 11
Time is 17: Serving Regular Passenger with time stamp 3, service time is 1
Time is 18: Serving Regular Passenger with time stamp 5, service time is 2

The number of regular passengers served was 4

with an average waiting time of 11.75

The number of frequent flyers served was 5

with an average waiting time of 0.4

Passengers in frequent flyer queue: 0

Passengers in regular passenger queue: 9

2.

Time is 0: Regular Passenger arrival, new queue size is 1
Time is 0: Serving Regular Passenger with time stamp 0, service time is 1
Time is 1: Regular Passenger arrival, new queue size is 1
Time is 1: Serving Regular Passenger with time stamp 1, service time is 1
Time is 2: Regular Passenger arrival, new queue size is 1
Time is 2: Serving Regular Passenger with time stamp 2, service time is 3
Time is 3: Regular Passenger arrival, new queue size is 1

Time is 4: Regular Passenger arrival, new queue size is 2
Time is 5: Serving Regular Passenger with time stamp 3, service time is 2
Time is 6: Frequent Flyer arrival, new queue size is 1
Time is 7: Frequent Flyer arrival, new queue size is 2
Time is 7: Regular Passenger arrival, new queue size is 2
Time is 7: Serving Frequent Flyer with time stamp 6, service time is 4
Time is 8: Regular Passenger arrival, new queue size is 3
Time is 10: Regular Passenger arrival, new queue size is 4
Time is 11: Regular Passenger arrival, new queue size is 5
Time is 11: Serving Frequent Flyer with time stamp 7, service time is 1
Time is 12: Serving Regular Passenger with time stamp 4, service time is 3
Time is 15: Serving Regular Passenger with time stamp 7, service time is 2
Time is 16: Frequent Flyer arrival, new queue size is 1
Time is 16: Regular Passenger arrival, new queue size is 4
Time is 17: Serving Frequent Flyer with time stamp 16, service time is 2
Time is 18: Regular Passenger arrival, new queue size is 5
Time is 19: Serving Regular Passenger with time stamp 8, service time is 3

The number of regular passengers served was 7
with an average waiting time of 4.142857142857143

The number of frequent flyers served was 3
with an average waiting time of 2.0

Passengers in frequent flyer queue: 0

Passengers in regular passenger queue: 4

3.

Time is 0: Regular Passenger arrival, new queue size is 1
Time is 0: Serving Regular Passenger with time stamp 0, service time is 1
Time is 1: Frequent Flyer arrival, new queue size is 1
Time is 1: Regular Passenger arrival, new queue size is 1
Time is 1: Serving Frequent Flyer with time stamp 1, service time is 4
Time is 4: Frequent Flyer arrival, new queue size is 1
Time is 4: Regular Passenger arrival, new queue size is 2
Time is 5: Frequent Flyer arrival, new queue size is 2
Time is 5: Regular Passenger arrival, new queue size is 3
Time is 5: Serving Frequent Flyer with time stamp 4, service time is 2
Time is 7: Frequent Flyer arrival, new queue size is 2
Time is 7: Regular Passenger arrival, new queue size is 4
Time is 7: Serving Frequent Flyer with time stamp 5, service time is 4
Time is 10: Frequent Flyer arrival, new queue size is 2
Time is 10: Regular Passenger arrival, new queue size is 5
Time is 11: Regular Passenger arrival, new queue size is 6
Time is 11: Serving Frequent Flyer with time stamp 7, service time is 3
Time is 13: Frequent Flyer arrival, new queue size is 2

Time is 13: Regular Passenger arrival, new queue size is 7
Time is 14: Regular Passenger arrival, new queue size is 8
Time is 14: Serving Regular Passenger with time stamp 1, service time is 3
Time is 15: Frequent Flyer arrival, new queue size is 3
Time is 17: Regular Passenger arrival, new queue size is 8
Time is 17: Serving Frequent Flyer with time stamp 10, service time is 2
Time is 18: Frequent Flyer arrival, new queue size is 3
Time is 19: Regular Passenger arrival, new queue size is 9
Time is 19: Serving Frequent Flyer with time stamp 13, service time is 3

The number of regular passengers served was 2
with an average waiting time of 6.5
The number of frequent flyers served was 6
with an average waiting time of 3.3333333333333335
Passengers in frequent flyer queue: 2
Passengers in regular passenger queue: 9

4. In my condition swapping the frequent fly and regular passenger queue would make little to no difference besides swapping the order of which each entered the queue. Since in checkNewArrival is random. It will add the regular passenger first and still check the frequent flyer.