Question 3:

First of all, by looking at the schedule of the technicians, it would be impossible to serve Costumer N.

The travel time is being computed real time using the Google Maps API or it can be assumed that the time difference is approximated to the difference zip code and the customers are being picked using the greedy algorithm. Note that here, travel time is getting calculated upon taking into consideration real world attributes like traffic. Moreover, travel time is being given preference over distance. Hence, which ever travelling time is the least is picked by the technician.

It is important to be noted that from 8:30am to 5:30pm, two technicians are working at all times.

Now I am going to arrange all the jobs in the array in the order that they need to be done.

After that, the time to reach the first job will be calculated for both Rick and Andrew and either one of them can be picked randomly.

For Rick, it would take approximately 10 minutes to reach Customer A and 7 minutes to reach Customer J.

For Andrew, it would take approximately 10 mins to reach Customer A and Customer J.

Hence, both are in a situation to reach Customer J and A at 9:00am. In such a situation, Rick would visit Customer J and Andrew would visit Customer A.

However, if the time to visit both Customer A and J was same for Rick and Andrew, I would randomly assign them to the both the jobs.

The next job is for Customer G. However, the task for both customer J and A is for 30 minutes each. And hence, neither Rick not Andrew will be able to reach Customer G in 0 minutes.

Next is customer D. It would take Rick about 4 minutes to reach customer D and then 6 minutes to each customer H.

Next it would take Andrew about 5 minutes to reach Customer B.

Kyle’s job starts at 12:30pm and Ricks ends.

Now there are three Customers C, M and K at 2pm and only two can be served because we only have two technicians.

Kyle has to travel only 6minutes to reach M and Andrew travels about 6 minutes to reach K. They both would require much more time to reach C. Hence, Customer C can’t be served.

After that, Kyle can reach Customer O in 11 minutes.

Now Kyle finishes his job at Customer O at 3:15 and is not able to reach either Customer E or I in 15 minutes. However, Andrew reaches job Customer E in 8 minutes. Hence, Customer I remains unserved.

Then Customer F and L both can be reached in 22 minutes by Kyle and hence, F is picked because it precedes L alphabetically and L remains unserved.

Rick	J	D	H	End of Day	
Andrew	A	B	K	E	End of Day
Kyle	M	E	O	F	End of Day