

Assumptions:

- The earliest a team meeting can start is 8:15 and latest a team meeting can start is 8:45
- The earliest a team meeting can end is 9:00 and latest a team meeting can start is 9:30
- Anyone who is not the manager can eat lunch whenever they would like to.
- That the Random function returns a truly 50/50 chance on any question asked.
- A team member can ask questions sporadically throughout the day.
- A team lead can wait for up to an hour and a half for a question to be answered.
- A manager will enter a meeting or go to lunch late if he has to finish answering a question.
- No questions will be asked from any employee who is not at work, at lunch or in a meeting.
- If employees are free at 4 they will show up as soon as possible to the afternoon meeting.
- The last question before the afternoon meeting will be take by 4:05pm.
- An employee can work more than 8 hours.
- The last question of the day will be asked before 4:50 so the manager can leave at 5
- The average lunch break will be 45 minutes
- The average arrival time will be at 8:15 and the average departure time will be at 4:30.

Reports:

- Average Arrival Time: 8:14.231
- Average Lunch Break Time: 0:44.681
- Average Departure Time: 17:12.769
- Average Time the Manager went to Lunch: 12:23.881

The above reports were generated from 10 times.

Decision Rationale:

When we were creating the program we considered having all members keep track of their own schedule to know what they should be waiting for notifications from. Instead, though, we opted to having them accept actions through a blocking queue which would function as inter-personal communication and a means for our main driver to coordinate daily activities.

We then implemented various blocking queues between members because they ensured blocking communication between individuals, or between individuals and the driver. Only one person could interact with one other thing at a time.

While we did not notice any race conditions and believe that we have eliminated the possibility we do acknowledge that we were only able the run it so many times, thus leaving the possibility that there could be a rare race condition that we have not noticed.