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CSCI 77800
Due October 6th, 2021

It is hard to decide on an algorithm that will be equitable for passengers and profitable for airlines. Here are a few ideas and some limitations/consequences of each:

1. Eliminating economy plus class and seating each passenger in order of time of ticket purchase. Groups of passengers purchasing tickets together will be seated together.

   I imagine this solution to be like a Tetris game – if there is a large group of passengers, seat them together in a new row, and fill in gaps with smaller groups/individuals traveling. This would eliminate the economy plus group and therefore would decrease revenue for airlines. To offset this, the airline can charge each passenger in the slightly more. Distributing the cost of seating preferences ultimately benefits groups of travelers but comes at the expense of those traveling alone and those who would have paid for economy plus for a seat of their choice.

2. After seating economy plus passengers, instead of seating economy class passengers randomly, we are seating groups of passengers first before seating individual passengers.

   Similar to algorithm 1 above, we are prioritizing groups of passengers so they can stay together and seating individual travelers last. While groups of passengers may not be able to sit in all the same row, they will still be seated near each other. This way, airlines can still charge more for economy plus passengers to choose their seats. Again, this comes at the expense of individual travelers the most.

3. After seating economy plus passengers, seat only groups of passengers who are traveling with children under 13. Afterwards, seat all economy passengers randomly.

   The most controversial part of seating the economy class randomly was that children were being split up from the rest of their families. If these groups were prioritized and seated together, then the airline doesn't have to be too concerned with the remainder of the economy class. This creates a different equity issue and comes at the expense of groups and individuals traveling without children.

Overall, there seems to be no perfect solution to seating travelers on a plane. Tradeoffs involving cost and preference don't seem to go away in the scenarios I've imagined. I am looking forward to seeing other seating algorithms and their takes on how to resolve these issues.