

### **Seating Algorithms**

The last time I flew on a Ryan Air flight without assigned seats was several years ago. From what I remember, the people who paid for specific seats boarded first and then others boarded based on a section. If you didn't pay for a seat, you would just fill in the available seats when you got on the plane like on the subway or Metro North. This may be problematic because the airline would not have a record of where all customers were sitting in case of an emergency.

With the algorithm we are discussing, customers who do not pay, are assigned seats before getting on the plane, though most likely they will not be sitting with their flying companions or family members. If I were making the decisions, I would go back to allowing all fliers to choose their seats without paying. This would solve the issue of families not sitting together since they could choose seats when they book. However, airlines seem to overbook flights and are looking to make more money, so this is not in their best interest.

Perhaps to ensure more fairness when allocating seats, the algorithm could allow for small groups of 2 or 3 to sit together. If 1, 2 or 3 tickets were purchased at a time, the algorithm would look for the groups of available seats and seat people together, if possible. If more than 3 seats are purchased at once, the algorithm would ask for how many groups of 2 or 3 are needed. For example, a family of five could have a group of 2 and a group of 3. The algorithm would ask for user input such as "How many groups of 3 do you need?" and "How many groups of 2 do you need?" Then the program will look for places where 2 or 3 seats are available and fill in those seats. At some point, there may only be single seats available, but those seats would be allocated only if no groups were available. People who book late will be less likely to get seats together. Larger families will have more difficulty sitting together anyway, since some planes can't fit large families together even if they purchase their seats due to the number of seats in a row. However, using this system, at least 2 family members will be able to sit together, if possible.