Morgan Wajda-Levie CSCI 77800: Ethics and Computer Science October 6, 2021 Seating

The simplest change to the algorithm is to make seat\_economy aware of the buyers' original block size, and attempt to seat economy passengers by block first, if possible. If no suitable block of free seats is available, passengers can be seated wherever possible. An implementation of this algorithm is included.

A slight improvement over this algorithm could be made by sorting economy passengers by block size before attempting to seat them, so that largest groups are seated first. One unintended consequence of this would be that a family of 5 might buy their tickets last, get the only row of 5 adjacent seats, and keep two families, one of 3 and one of 2, from sitting together, even if they had purchased their tickets first.

An even better seating algorithm would require a change to the seating policy — instead of allowing all Economy Plus passengers the opportunity to choose their seats before any economy passengers are seated, a block of Economy passengers would be seated as soon as only one available block for a group of their size remains. I leave the implementation of this algorithm as an exercise for myself at a later date.