Program 2 Report

When writing this program, I knew that the genetic algorithm function would be the most complicated to write, and I knew that I didn't want to work on other functions first and realize that I want different information returned from those functions for the genetic algorithm. I started with the genetic algorithm and worked backwards from there, which I found to be an effective strategy for approaching the program. Certain aspects of the genetic algorithm were left up to me to decide how to implement them, and that made the algorithm easier for me to approach as I handled choosing parents and making offspring in a way that makes sense to me. The fitness function was more time consuming and tedious as I had to write code to handle every single adjustment as there weren't many adjustments that could be implemented with reusable code.

The schedule that is produced by the program seems pretty good to me given the adjustments provided with the assignment. To improve the program, I might change how parents are chosen for creating offspring so that the better the fitness score, the more likely the parent will be picked to have offspring, meaning they are likely to be chosen for several offspring if their fitness score is really high. I might also change the fitness function so that the fitness score for an activity is lowered multiple times if an adjustment is violated by more than one other activity. For example, if there are two other activities with the same time and room, instead of just lowering the fitness score once for that adjustment being met, it is lowered twice for each other activity.

Overall, I think my genetic algorithm program came out well, but there are a few changes that I could make that might improve it. Regardless, I feel like the program effectively accomplishes its goal and the schedule the program outputs seem to consistently have good fitness scores.