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Group 204

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Project Proposal

My project is centered around simulating flights coming into and out of an airport, and how this can be made more efficient. The dataset I am using has data from hundreds of airports around the world, but I will only be using data for Boston’s Logan Airport, as that is the airport that I will be simulating. At the current moment, I have filtered the data to obtain only the data I need, and performed some initial exploratory data analysis to get an idea on how many flights are flowing through the airport.

My next steps are to find a layout of the airport (number of runways, taxiways, and gates), to find taxi speed limits, to find a list of terminals that each airline can park at, and to determine departure/arrival distributions. Finally, I will have to determine weather probabilities (simple weather patterns like sun/rain/light snow), and to determine plane and equipment breakdown probabilities. Once I have gathered all this information, I can string it together in a flow chart, and then begin simulations. When simulations have begun, I will observe where bottlenecks occur, and modify the simulation as needed to find the optimal operating conditions for the airport. My findings will be recorded in the final report.