Programming Project

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This project is built in Python using CS330_Programming_Project

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In this project, I have managed to successfully create a functional lock that will print out the state of the door as the code or password are being passed in. As the instruction said, I created two files Part1.py and Part2.py. The first one is to show the mechanism of a lock engine. The second file is used to crack the lock and also returns the average symbols produced while trying to unlock the engine as well as the minimum and the maximum symbols generated. There are a lot of errors that were made during Part 1, mainly due to the Engine's states itself. For instance, for my implementation, my lockCode is 900944, it seems easy enough to pass through every correct input. However, what if it reaches position 3 (9), and the next number is not 4 but 0, we would have to direct the state back to 0. Small improvements of code are made throughout the process, which in return boost the runtime of Part 2 by quite a distance. From a minute to hours, to only a couple of seconds. Attached is a picture of my Finite Automata state transition graph.