We first initiate all the three smokers and the agent process. For this scenario, we assume that there will be an unlimited supply of ingredients on the board and that the smokers will randomly take turns allowing for infinite interactions between the three smoker processes until termination. Each process is assumed to hold a specific ingredient that the others would need to create a cigarette. For the process, we would want two of the three smokers to place down their ingredient while the third one goes and creates a cigarette to smoke. To determine who would be the one standing out, we randomize who sits out every iteration. The agent process exists to place the two ingredients on the table while the last smoker who was not required to is called up to smoke. A mutex lock would be placed to only allow one process to occur at a time and prevent any concurrent conflicts until the mutex is unlocked. Because its randomized calling, a smoker that has come up to smoke may indeed be called up again immediately. A timer is made to randomize the pauses between the smokers as one gets called up to smoke and then move on to the next smoker.