

Exercises

- *There's a million games they haven't run.* Using simulations, can you establish a relationship between *payoff-cost* and *num-iterations* for the evolution of TFT cooperators? Assume that TFT agents are initially 10% of the population, and there is no network assortment (randomization-prob = 1). What is your general conclusion? (If you want a hint, check out the mathematical proofs in Axelrod and Hamilton 1981, which explore this question).
- *Making mistakes.* Sometimes sometime might intend to cooperate, but nevertheless fail to do so. For example, you might intend to drive your friend to the airport, but you mark the wrong date on your calendar and oversleep. Introduce implementation error into the model. Add a variable called *error-prob* that affects TFT agents: with some probability, any given act of cooperation can change to a defection. Recall that TFT starts out cooperating, and thereafter copies its co-player's previous move. This will involve a careful consideration of the code. Explore how error disrupts the success of TFT considerably.