Prisoner's dilemma findings

I made 3 strategies in addition to the ones supplied in the assignment:

1. Agree: Start with cooperate and then do whatever the other person did the last time.
2. Look Back: Takes into account all the previous decisions made and chooses the option that is likely to give the least jail time for both
3. Coin Flip: Select either cooperate or betray at random

After running the simulation several times the strategies that won out the most was agree, with lookback as a frequent number 2. Considering how the prisoner's dilemma was originally intended to illustrate how cooperation is beneficial in scenarios where it seems unnatural for humans to do so, this result coincides well the with spirit of the original thought experiment.

Rock paper scissor

For the rpsc I made the following strategies:

1. Rock only
2. Paper only
3. Scissor only
4. Simple Rotation: Start with a random option and then sequentially go through the other options on rotation.
5. Random: Select options at random
6. Equal Random: Select any option at random except the option that has been selected the most times in total.
7. Predict and counter: Counter the option chosen the most by the other player.

Putting all the different strategies against each other puts the "predict and counter" as the clear winner in every run of the simulation. However, if the tournament is held without the "x only" strategies, then the results become very different. "Predict and counter" and "simple rotation" fluctuate between best and worst while "equal random" and "random select" give much more consistent results. It appears, however, that "equal random" comes out on top of "select random" more often than not, and so in conclusion it seems fair to deem "equal random" the safest strategy in a tournament with people not opting for the same choice over and over (though not a definite winner).