

## Assignment 5\_Q2

### Questions to explore using NetLogo (PD N-Person Iterated model)

Download NetLogo!

Click on File → Models Library → Social Science → Unverified → Prisoner's Dilemma → PD N-Person Iterated

to open that model in NetLogo. This model was extensively used in class to demonstrate various aspects of the PD game. You can learn about the model by clicking on the **Info** tab. Click on the **Code** tab. This gives you the code on which the model is based. The code is written in NetLogo language, but you don't need to be an expert in that language in order to make small modifications. Go to the segment which describes the "unknown" strategy which is by default set to TFT.

Modify the "unknown" strategy in the code to make it represent GTFT. You can get some clues regarding the modification necessary by looking at the segment describing the Random strategy

1. Make GTFT compete with ALLD only. How does the average payoff to each change when

(i)  $x0\_GTFT = 1/3$  &  $x0\_ALLD = 2/3$  ?

(ii)  $x0\_ALLD = 1/3$  &  $x0\_GTFT = 2/3$  ?

2. Make GTFT compete with ALLD and TFT. How does the average payoff to each strategy change when

(i)  $x0\_TFT << x0\_GTFT$  and  $x0\_TFT << x0\_ALLD$  and  $x0\_GTFT \sim x0\_ALLD$  ?

(ii)  $x0\_TFT \sim x0\_GTFT \sim x0\_ALLD$  ?

(iii)  $x0\_TFT \sim x0\_ALLD << x0\_GTFT$  ?

**Provide the image files showing the variation of the average payoffs in all cases.**

***Submission Deadline: March 28, 2018***