You are invited to take part in the *Iterated Prisoner’s Dilemma Tournament*. You can compete as a team of any size (including size 1). The winning team gets $100 (and this prize is shared equally amongst all winning teams in case of a tie).

**Deadline: Monday, 8 April 2024, 13:00**

You compete by submitting a description of a strategy for playing the iterated variant of the Prisoner’s Dilemma discussed in class (with an unknown number of rounds):

![Graphical representation of a strategy](image)

You can describe a (deterministic) strategy by specifying your next move (either C or D) for every possible situation. One way of doing this is to use a *finite state machine*. To be a little more precise, we are going to use a *Moore machine* with states \{0, 1, 2, \ldots, K\}, initial state 0, and (output and input) alphabet \{C, D\}. The *output function* specifies for each state the move you make next. The *transition function* specifies for each state and for each move of your opponent what state you go to next. Below, on the left, you see a graphical representation of the strategy under which you cooperate as long as your opponent does not defect twice in a row, and under which you defect eternally once she does defect twice in a row. On the right you see a textual representation of the same strategy. Each line corresponds to a state (here from 0 to 2), listing (i) the name of the state, (ii) the action played in that state, (iii) the state you move to in case your opponent cooperates, and (iv) the state you move to in case she defects. The initial state here is taken to be 0.

![Textual representation of a strategy](image)

Come up with a strategy that differs significantly from the strategies you can easily find out about on the Internet (such as the famous tit-for-tat strategy) and submit it via the Game Server. Define your strategy using the textual representation explained above. Pay attention to syntax (uppercase C and D, use of colon and commas). You will also be asked for a name for your strategy as well as for a short motivation for using that strategy.