Housemate game

Short description:

The housemate game is a two player simultaneous game. Each player chooses an integer which represents how long he\she is willing to wait before completing a given communal task. Completing this task awards both players a certain amount of happy points, a value which grows smaller as time passes (i.e. the players chose a large number). The amount by which the value decreases is given as a diminishing factor and is calculated as such:

The “Time” variable is the smaller of the two numbers chosen by the players, representing the amount of time which passes before someone steps up. The catch is that the player who chooses the smaller number also has to pay a “Tax”, a deduction of happy points by a set amount, which represents the effort involved in completing the task. This setup ensures both players attempt to pick a number greater than their opponent (to avoid the tax). On the other hand, if the other player picks a very large number it may be more beneficial to pick 1 (to avoid the diminishing factor’s effect).

The project:

I have created a web app that simulates this game and a few AI agents that play it. After observing