Project #2

April 2020

1 Instructions

You open up an underground betting game that involves 2 dice. Participants start with some amount of initial capital, c, which can either be an amount instated by the house (you) or an amount at their discretion.

Once a player loses all of his/her money, the game is over. A player can choose to refill his/her money to the original amount c given that they've lost 90% or more of their starting value c.

The game is simple: you win a round if the minimum value of the 2 dice is greater than or equal to the average of the maximum of the last 3 rolls. The participant chooses some amount of money to risk before each roll.

The participant loses the amount of money put at risk if they lose the round. The participants wins the amount of money put at risk if they win the round *times* a multiplier that is based on their successive wins. The multiplier is 1 when the previous round resulted in a loss and increments by 0.25 for every win.

2 Example

Round 1
Rolls: 3,4
Max: 4

Round 2
Rolls: 1,6
Max: 6

Round 3
Rolls: 2,5
Max: 5

Average of last 3 max: $\frac{4+6+5}{3} = 5$. Need rolls of (5,5),(5,6),(6,5),(6,6) to win the next round.