

Mini-Project 2

(due Wednesday, October 22)

Design and write simulation code to analyze the doubling of stakes each time you lose betting strategy for a simple binary (win/lose) game with probability of winning p ranging from 0.10 to 0.50. Consider a wealthy opponent but limited resources at your own disposal, i.e. caps on the amount of money you can bet (or lose). The doubling of stakes strategy is the following: you have x to bet, \$1 at a time. You bet \$1 on the first game. If you win, you quit and you are \$1 ahead. If you lose, you bet \$2 on the next game. If you win, you are \$1 ahead (you have $x + 1$ dollars in your pocket). If you lose, you bet \$ 4 on the next game. You continue until you are broke and can bet no more or until you win a game and come out \$1 ahead of your initial resources.

Write a report describing your set-up and considerations and the summary analyses you choose to report (mean, standard deviation, percent of time you come out ahead, etc...). The written report should be 2-4 pages long. You can use any software language you want - just tell me what language you are using and attach the code with documentation (that is, tell what your variables represent and what various pieces of the code are doing in words.)