Matlab programming exercises: New 538 Casino Game
ME345 – Modeling and Simulation

(This question was originally posted as a brainteaser on The Riddler section of the FiveThirtyEight website; see http://fivethirtyeight.com/features/should-you-pay-250-to-play-this-casino-game/. As a brainteaser they explicitly ask that one *not* use a "silicon-based" approach, but for the purposes of ME 345 Matlab Programming Assignment that is *exactly* how we will approach it.)

Suppose a casino invents a new game that you must pay $250 to play. The game works like this: The casino draws random numbers between 0 and 1 from a uniform distribution. It adds them together until their sum is greater than 1, at which time it stops drawing new numbers. You get a payout of $100 each time a new number is drawn.

For example, suppose the casino draws 0.4 and then 0.7. Since the sum is greater than 1, it will stop after these two draws, and you receive $200. If instead it draws 0.2, 0.3, 0.3, and then 0.6, it will stop after the fourth draw and you will receive $400. Given the $250 entrance fee, should you play the game?