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In [1]: import random
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In [5]: def gameshow(n, switchOrKeep):  
    i = 0  
    get_prize = 0 #the count if the player win the prize  
  
    while (i<n):  
        Doors = [1,2,3] #"1" = car; "2" = chicken; "3" = donkey  
        choice_player = random.choice(Doors) #let player choose one door first  
        if choice_player == 1:  
            choice_host = random.randint(2,3) #host always choose the door without a car  
            choice_left = 2 if choice_host == 3 else 3 #the door left after they picked  
        else:  
            choice_host = 3 if choice_player == 2 else 2 #host can just choose the one last door which has no car behind  
            choice_left = 1 #the only choice left is one door with car behind  
  
        if switchOrKeep == True: #if the player chose to switch the door  
            choice_player = choice_left  
        if choice_player == 1:  
            get_prize +=1 #the count that player got the prize  
        i+=1  
    return(get_prize/n)
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In [6]: gameshow(1000, False)
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Out[6]: 0.331
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In [ ]:
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