Question:

I do a fair flip of a fair coin until I get heads for the first time. If I get heads for the first time on the nth throw, Sally pays me 2^n dollars. How much does she pay me on average? Solve by simulation (least squares)

This is my coding…

N=input (“how many trials?”)

Tosses = 0

A=P

For i : n

Wallet = 0

While (wallet>0)

If (rand()< .5) then wallet = wallet + 2^n

Else A =(n-1)/n\*A-1+ (P/n)

End//if

Tosses = tosses +1

End // while

End // for

Disp(“how much money do I have on average?”)

Disp (A)

Disp (“number of games?”)

Disp (n)