clear all;
D = 10;  

% Total of gambler’s stake plus the house’s stake

d = 2;  

% The gambler’s initial stake.

w = 0.49;  

% The probability of the gambler’s winning each hand.

T = 10;  

% final time

P = zeros(D+1,D+1);
P(1,1) = 1;
P(D+1,D+1) = 1;
for j = [2:D]
    P(j+1,j) = w;
P(j-1,j) = 1-w;
end

X = zeros(D+1,1);
X(d+1) = 1;

disp( ['The gambler starts with ', num2str(d)] )
disp( ['The house starts with ', num2str(D-d)] )
disp( ['The probability that the gambler wins a hand is ', num2str(w)] )
disp(’ ’)

% disp(’The probability transition matrix is’), P
for t=[0:T]
    disp( ['At time ', num2str(t), ', the gambler has probability distribution’] )
    disp( num2str(X’, '%4.3f ’) )
    disp(’ ’)
    X = P*X;
end

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