Solving Difference Equations:

1. Solve the following difference equations using recursion first by hand (for n=0 to n=4), then using MATLAB (for n=0 to n=30). Plot the output computed by MATLAB on a stem plot.

a) $y[n] + 0.5y[n-1] = 2x[n-1]$; $x[n] = \delta[n]$, $y[-1] = 0$
b) $y[n] + 2y[n-1] = 2x[n-1]$; $x[n] = \delta[n]$, $y[-1] = 0$
c) $y[n] + 1.2y[n-1] + 0.32y[n-2] = x[n]-x[n-1]$; $x[n] = u[n]$, $y[-2] = 1$, $y[-1]=2$