Digsig5

jostegj

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1 Problem 1

1.1 b

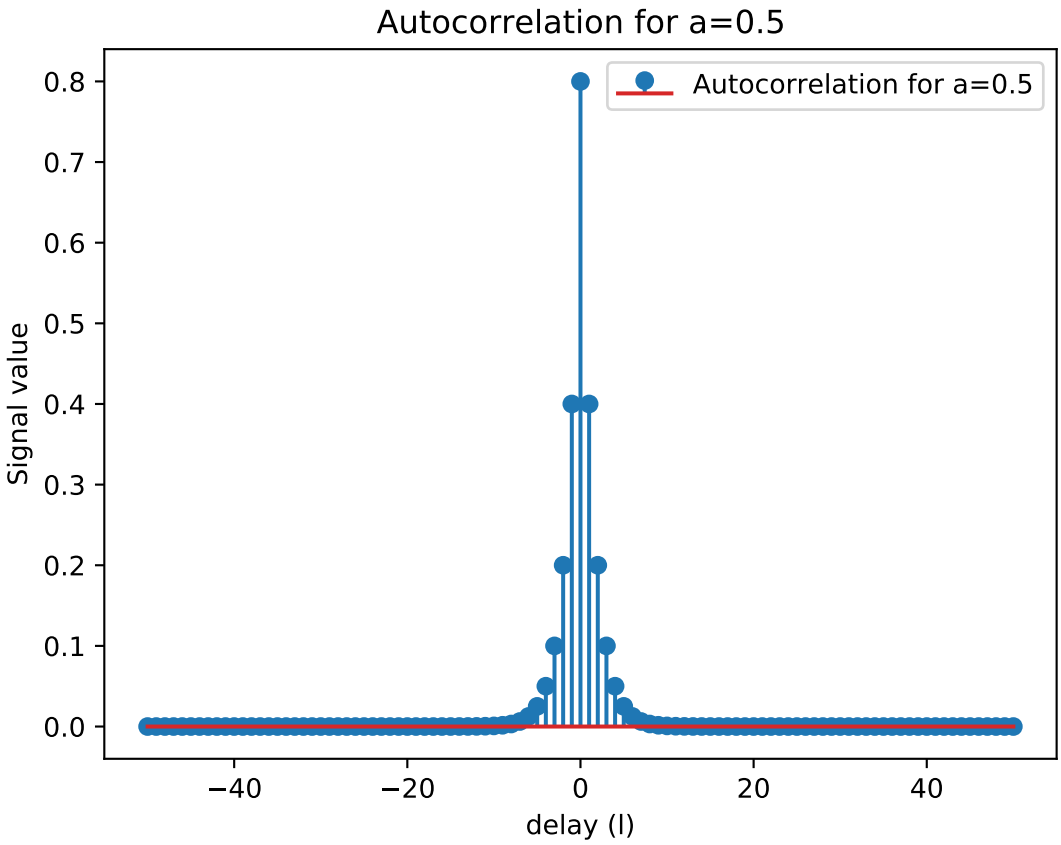

Figure 1: autocorrelation $a = 0.5$

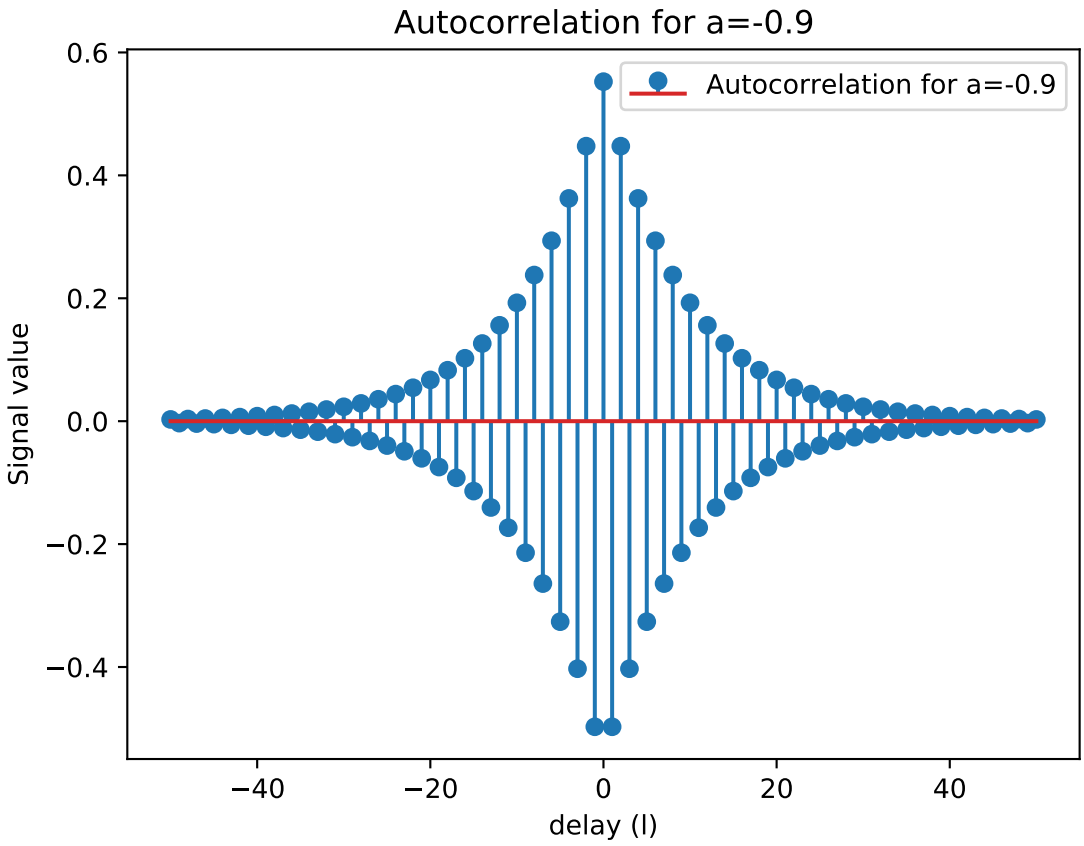

Figure 2: autocorrelation $a = -0.9$

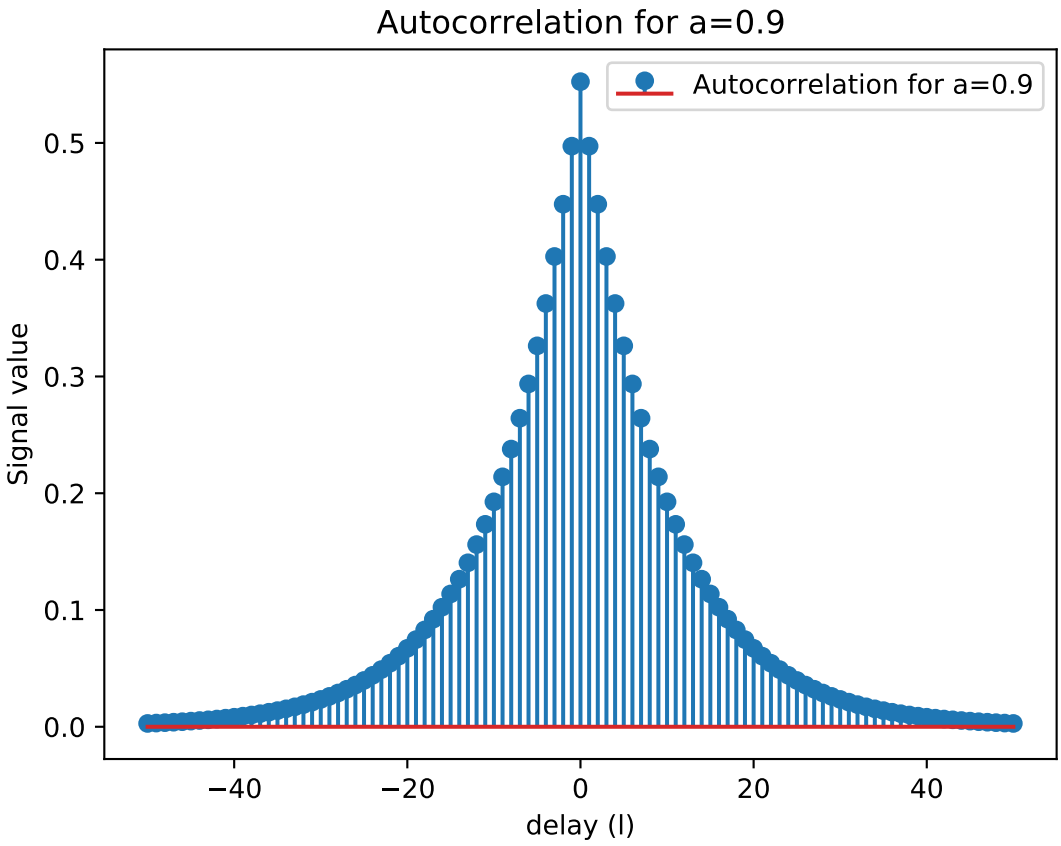

Figure 3: autocorrelation $a = 0.9$

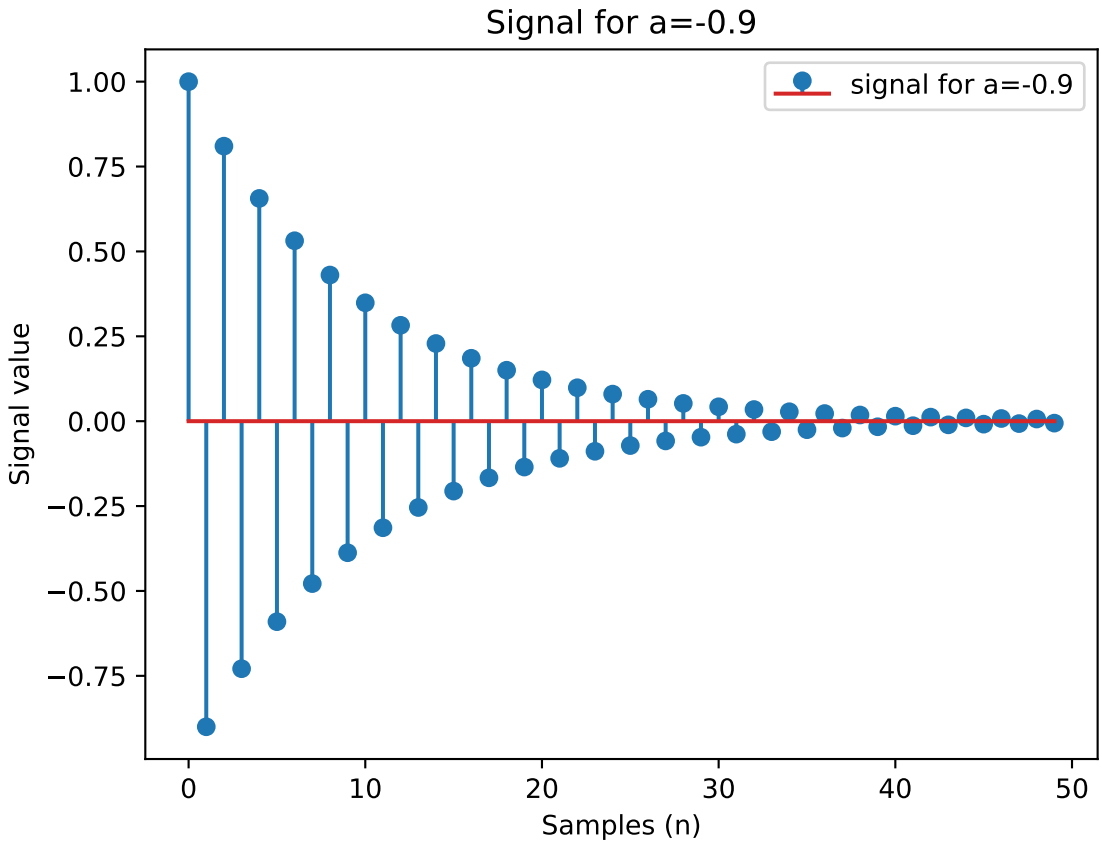

Figure 4: Signal a=−0.9

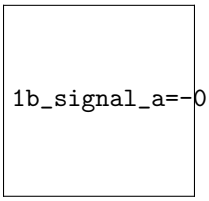

Figure 6: Signal a=0.5

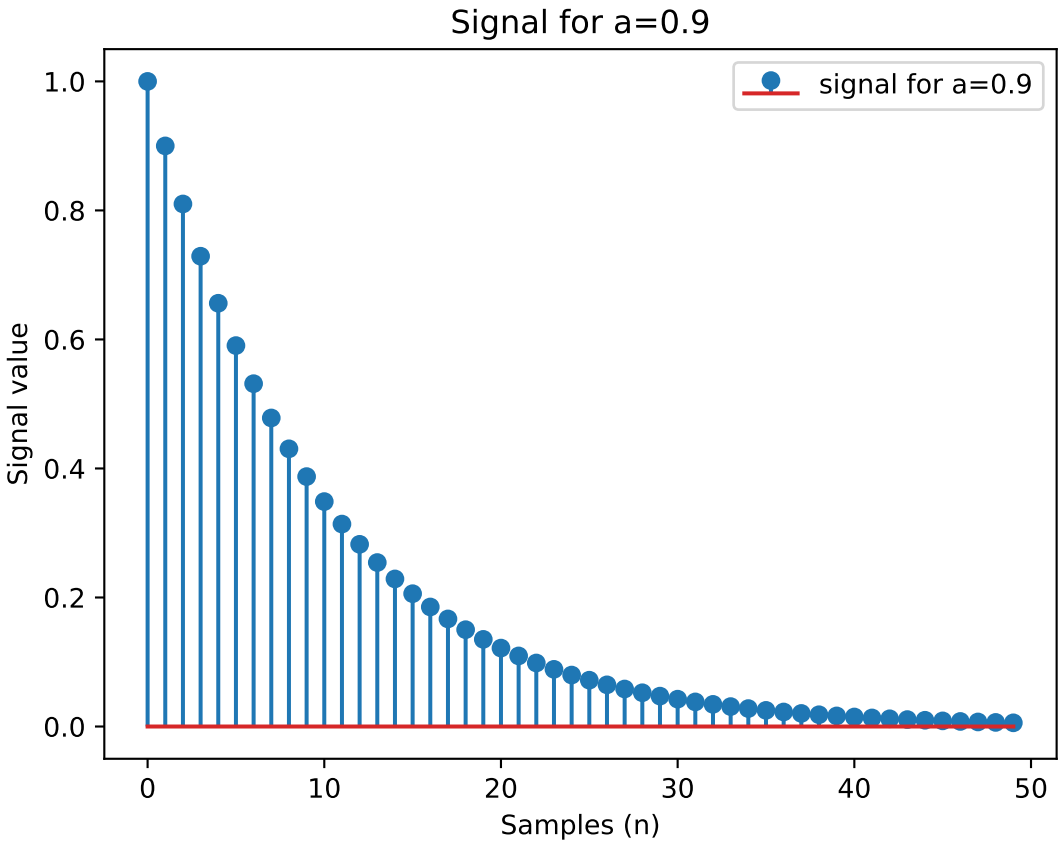

Figure 5: Signal a=−0.5

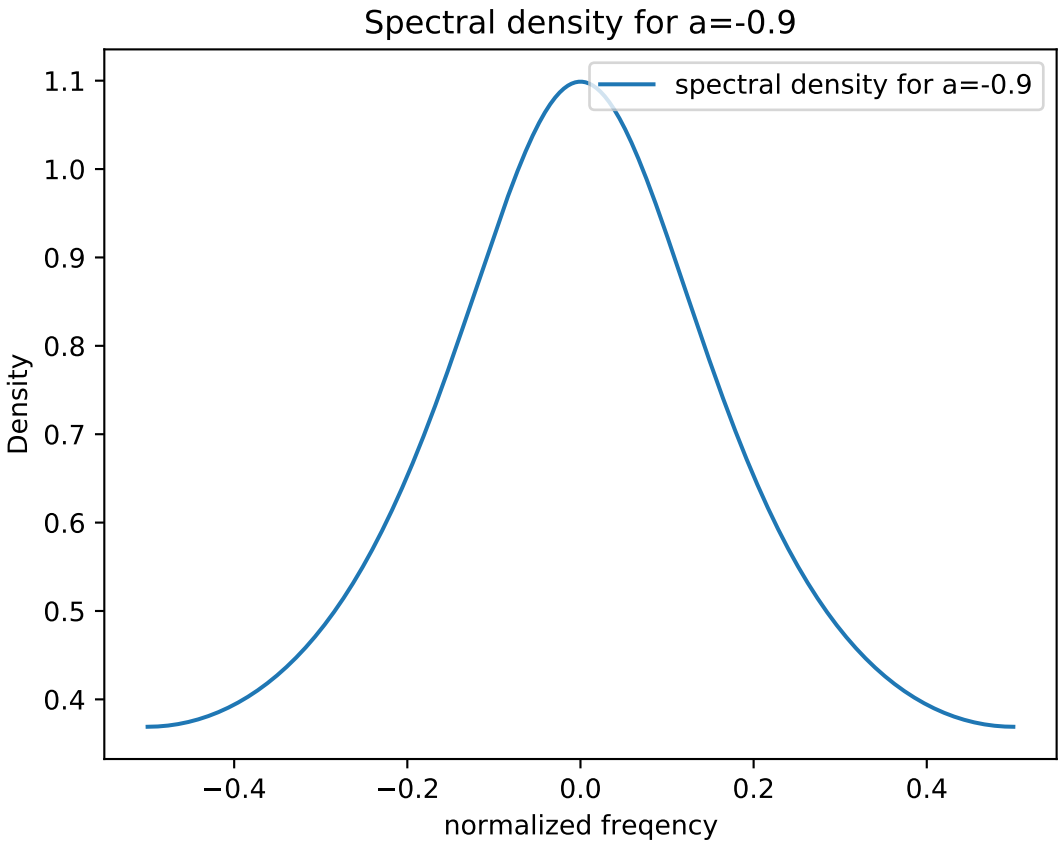

Figure 7: Signal a=−0.9

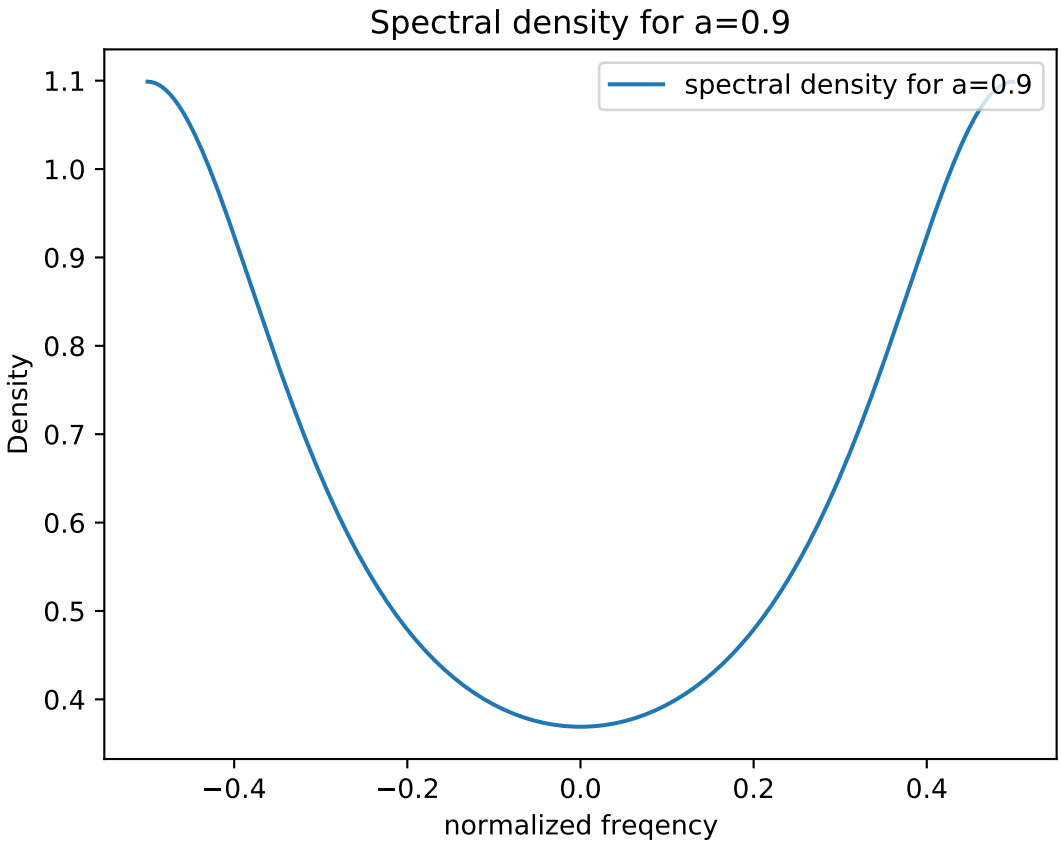

Figure 8: Signal a=0.9

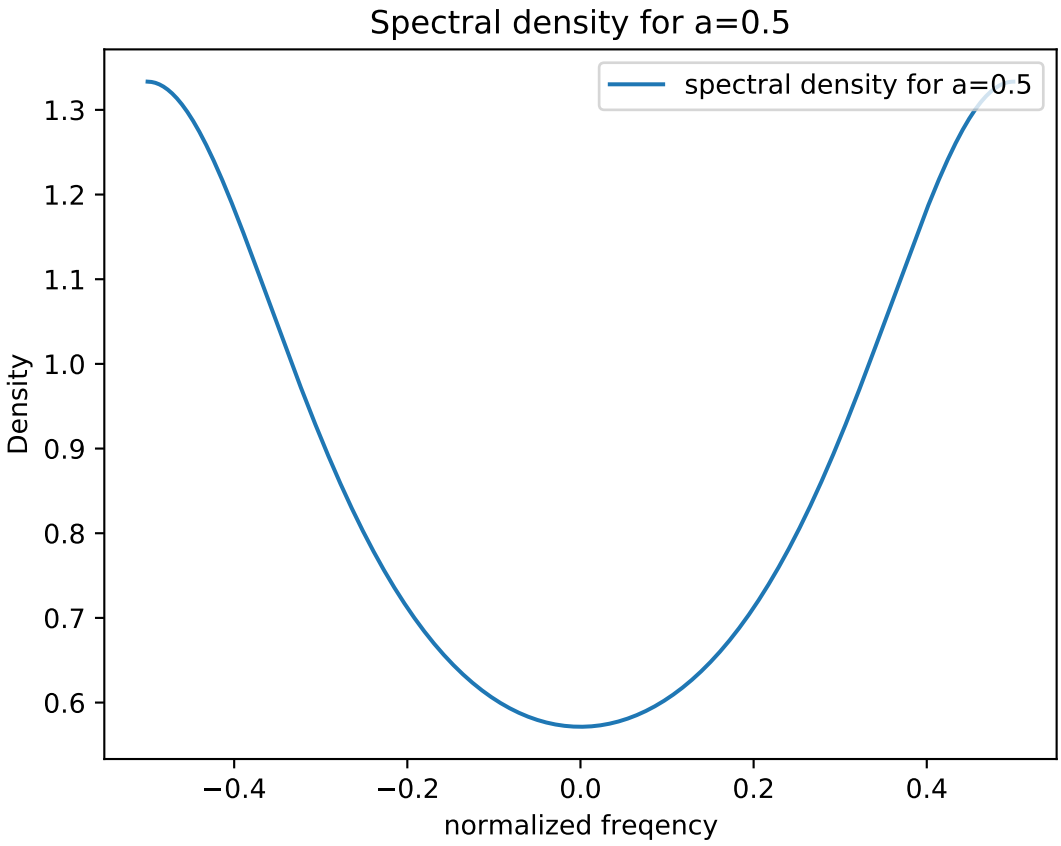

Figure 9: Signal a=0.5

1.2 e

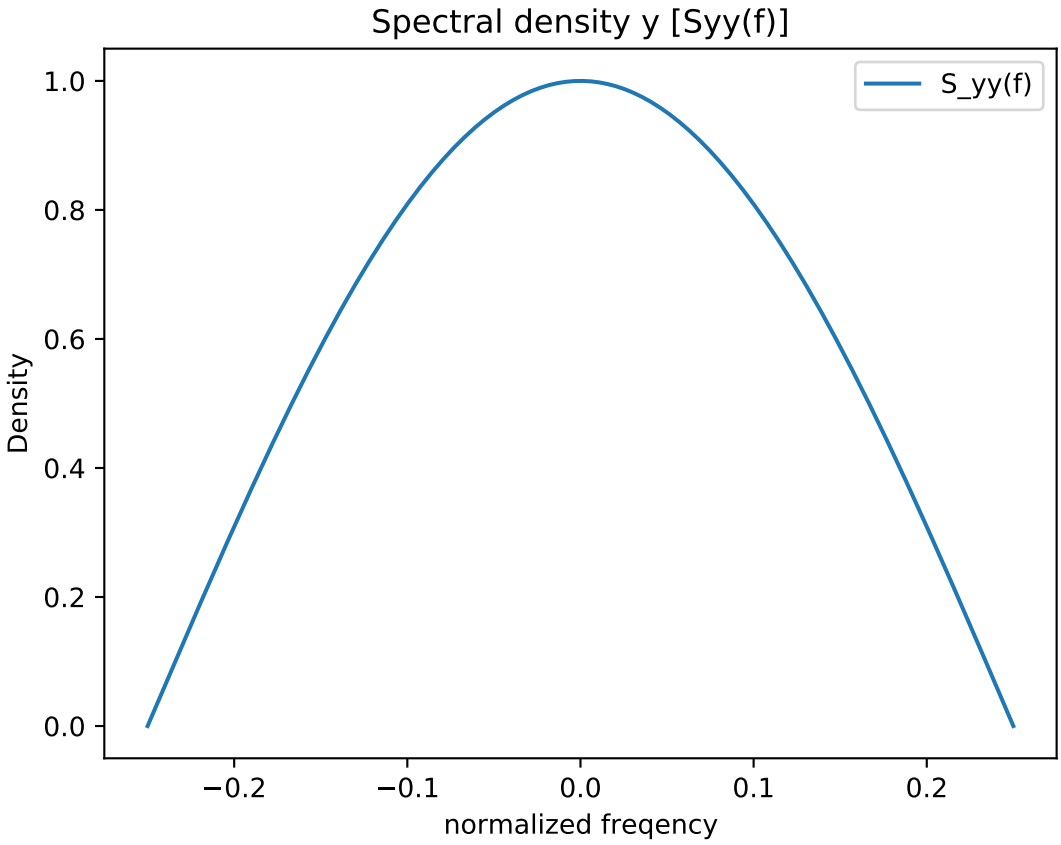

Figure 10: Spectral density of filtered signal

2 Problem 2

2.1 a

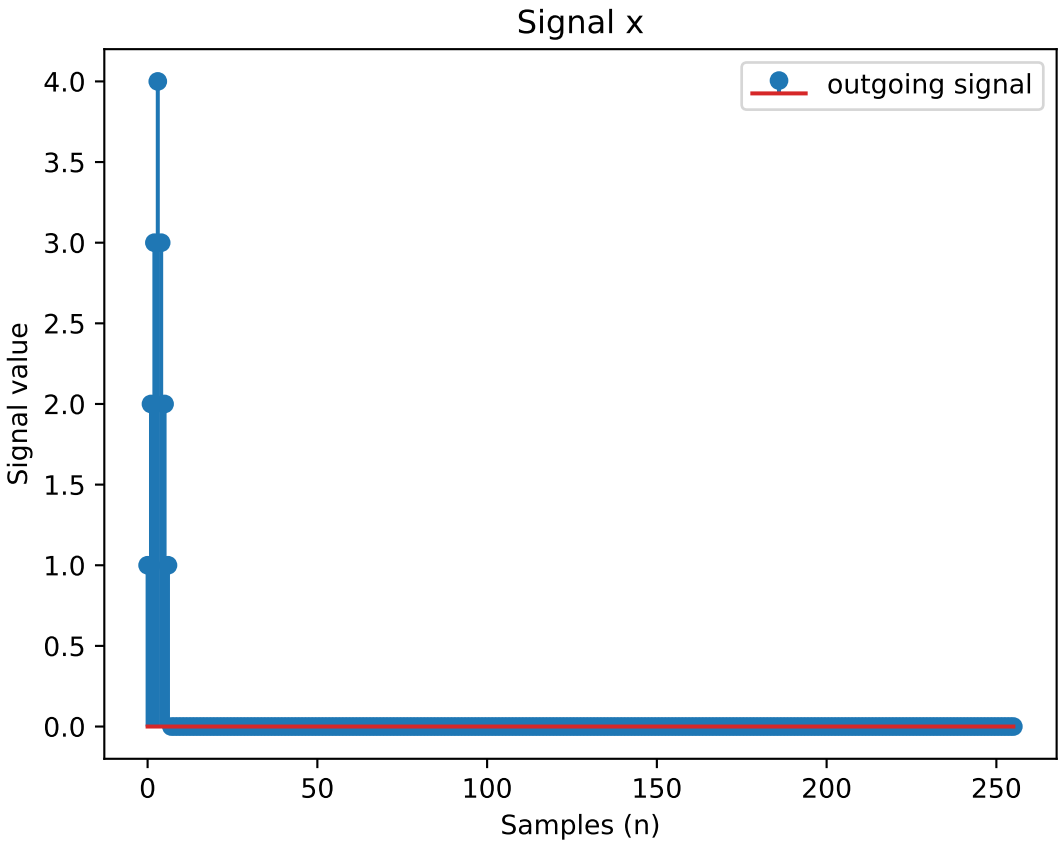

Figure 11: signal x for task 2

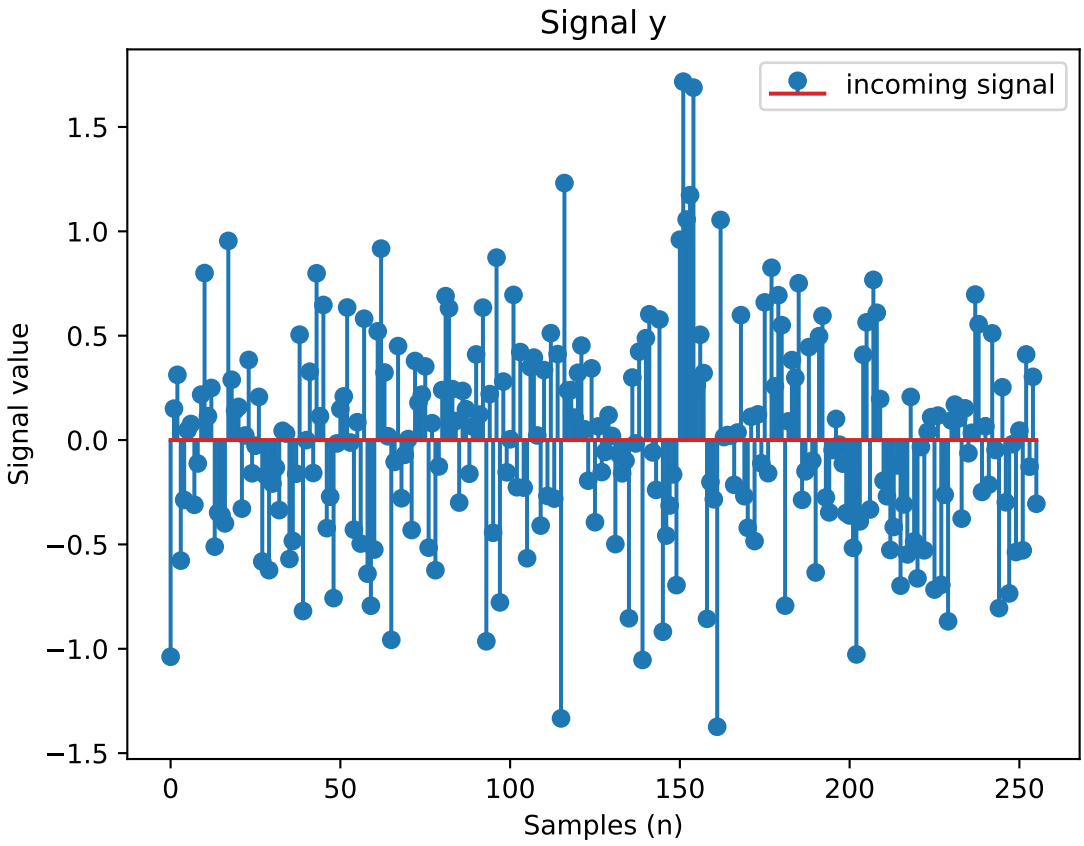

Figure 12: signal y for task 2

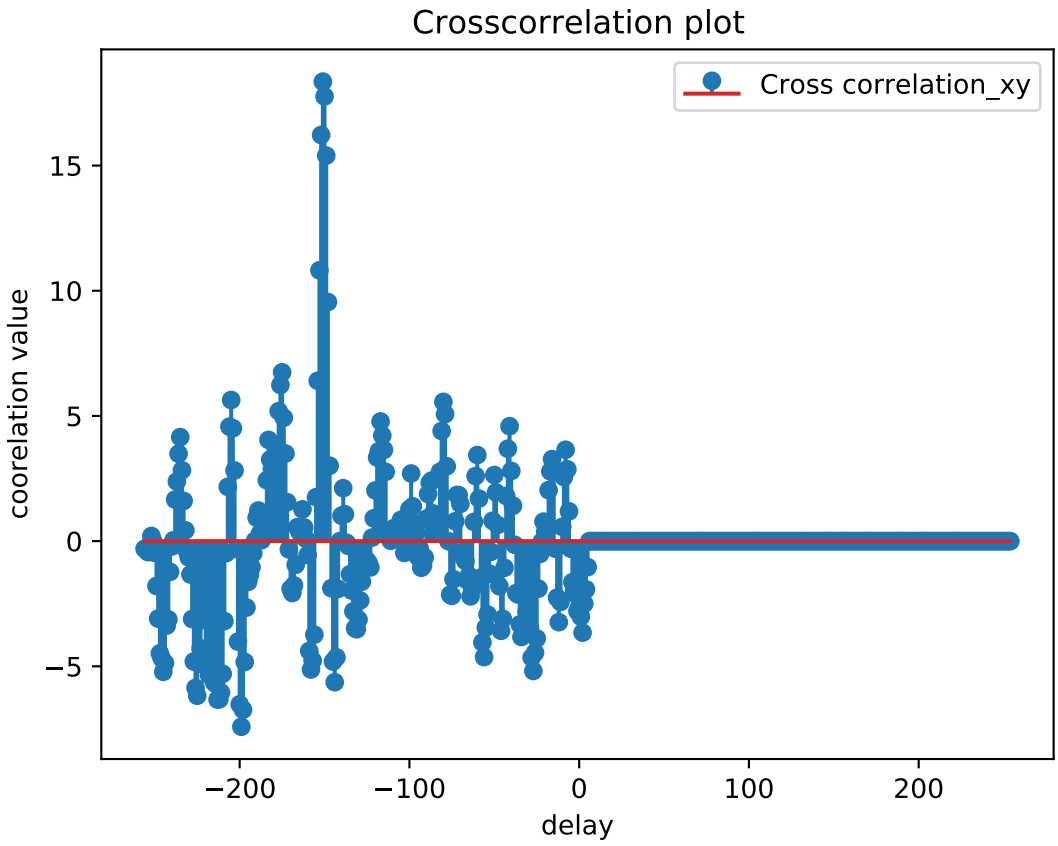

Figure 13: $r_{xy}(l)$

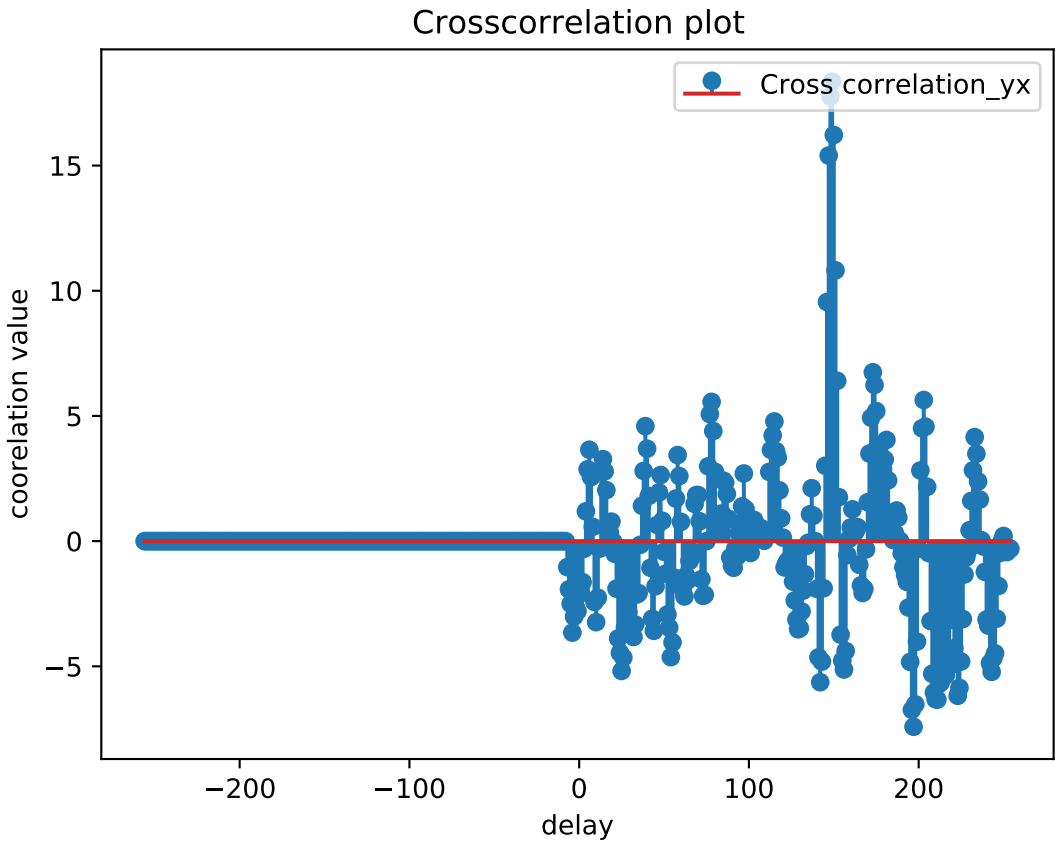

Figure 14: $r_{yx}(l)$

3 Problem 3

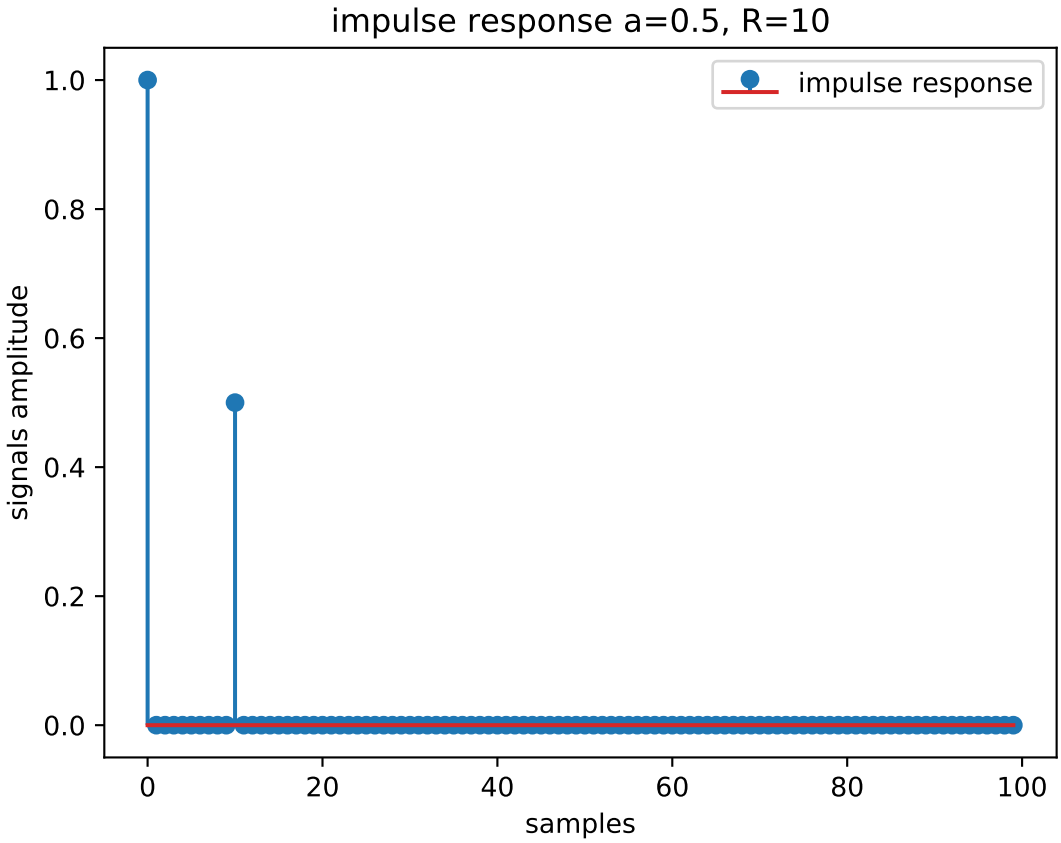

Figure 15: impulse response for $a = 0.5,\ R = 10$

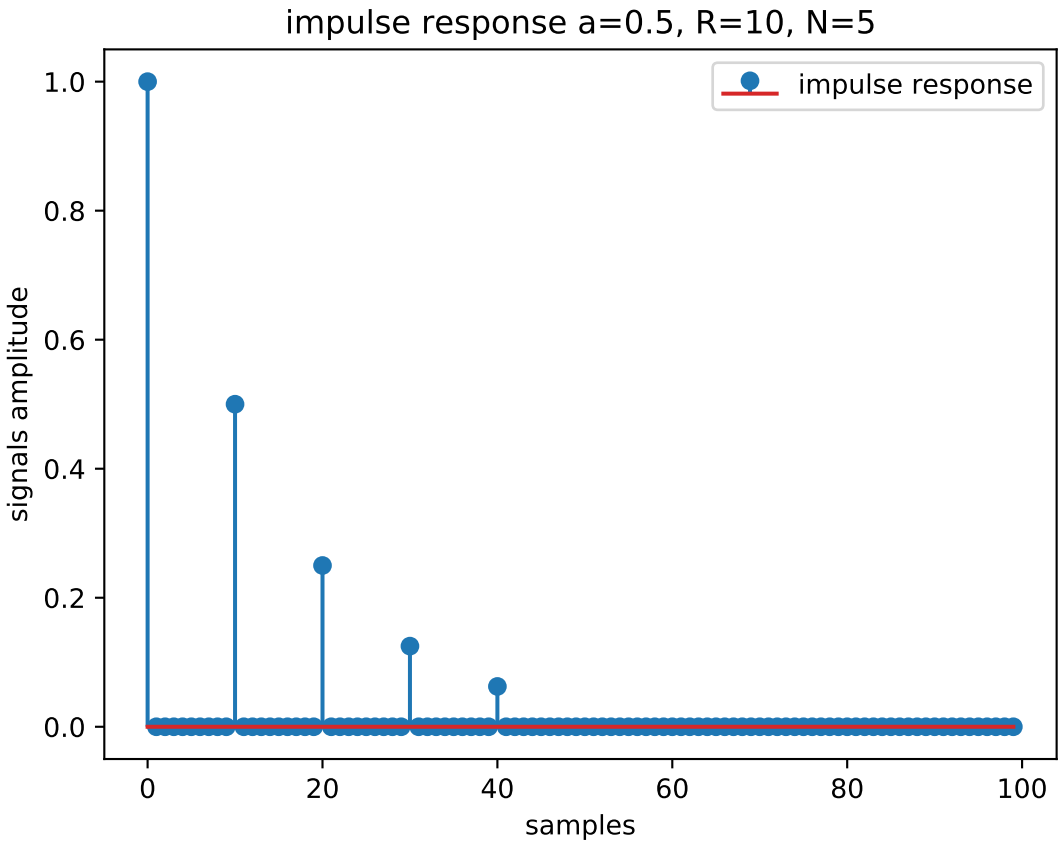

Figure 16: impulse response for $a = 0.5,\ R = 10, N = 5$

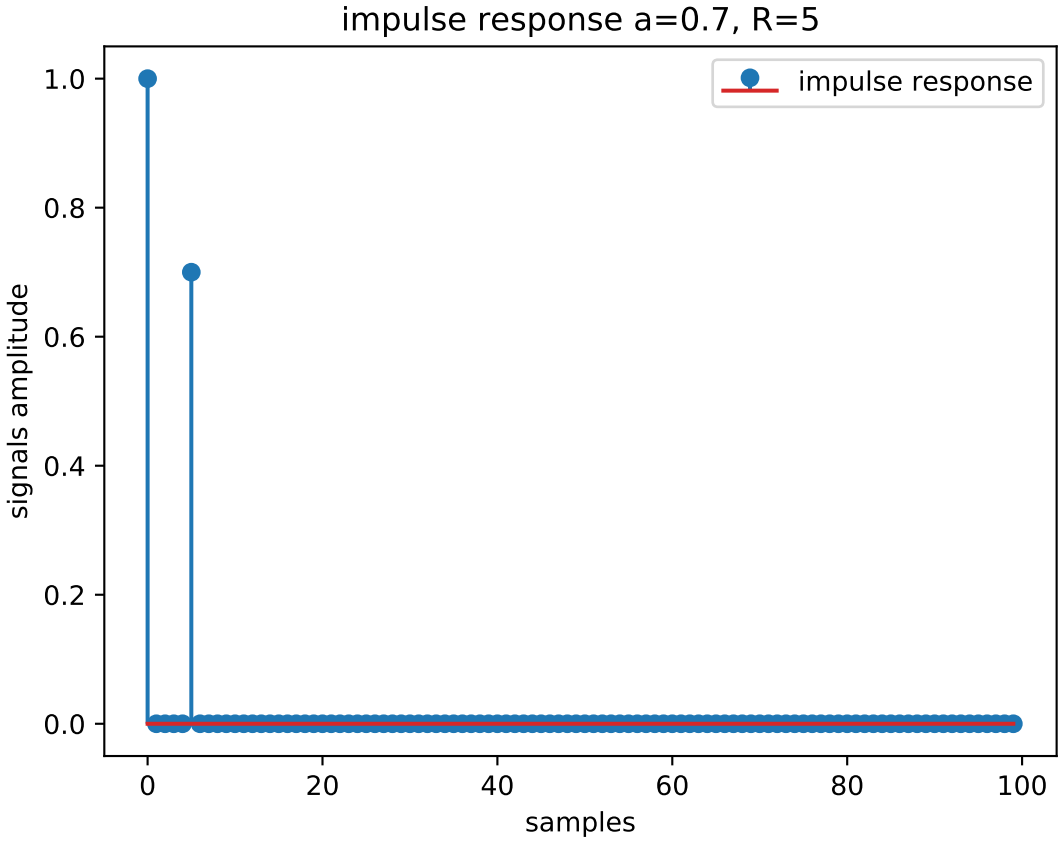

Figure 17: impulse response for $a = 0.7,\ R = 5$

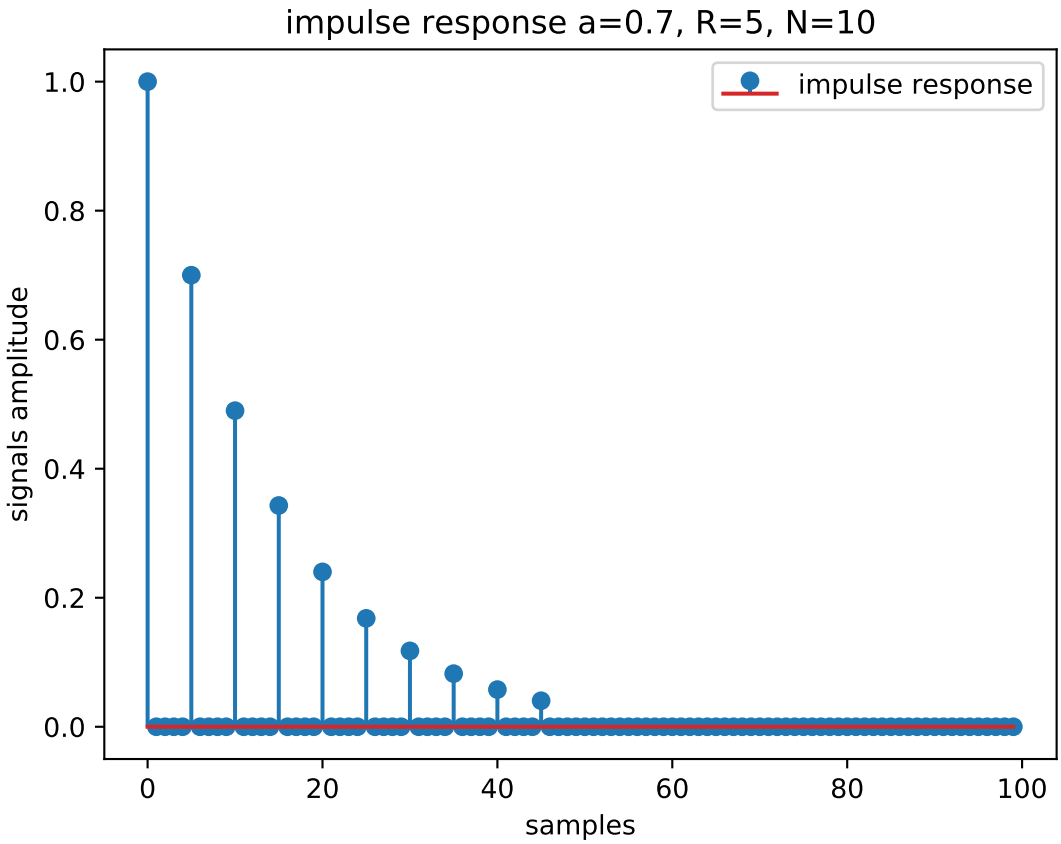

Figure 18: impulse response for $a = 0.7,\ R = 5N = 10$

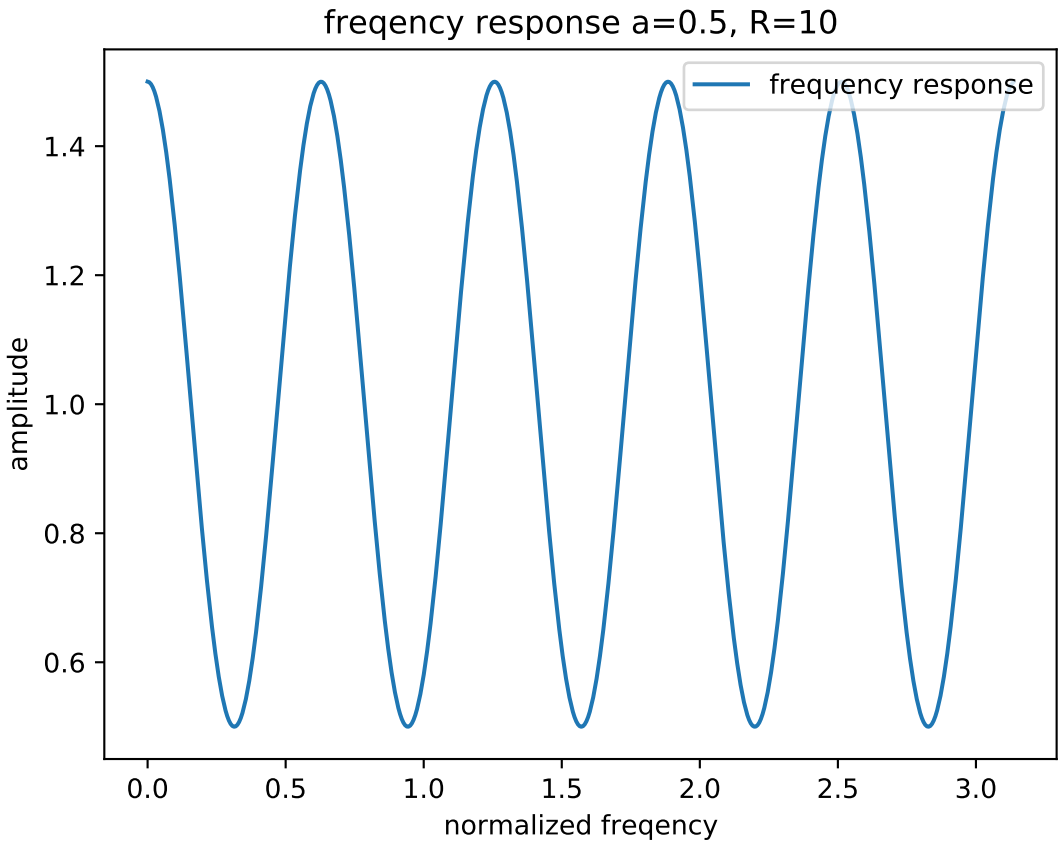

Figure 19: frequency response for $a = 0.5,\ R = 10$

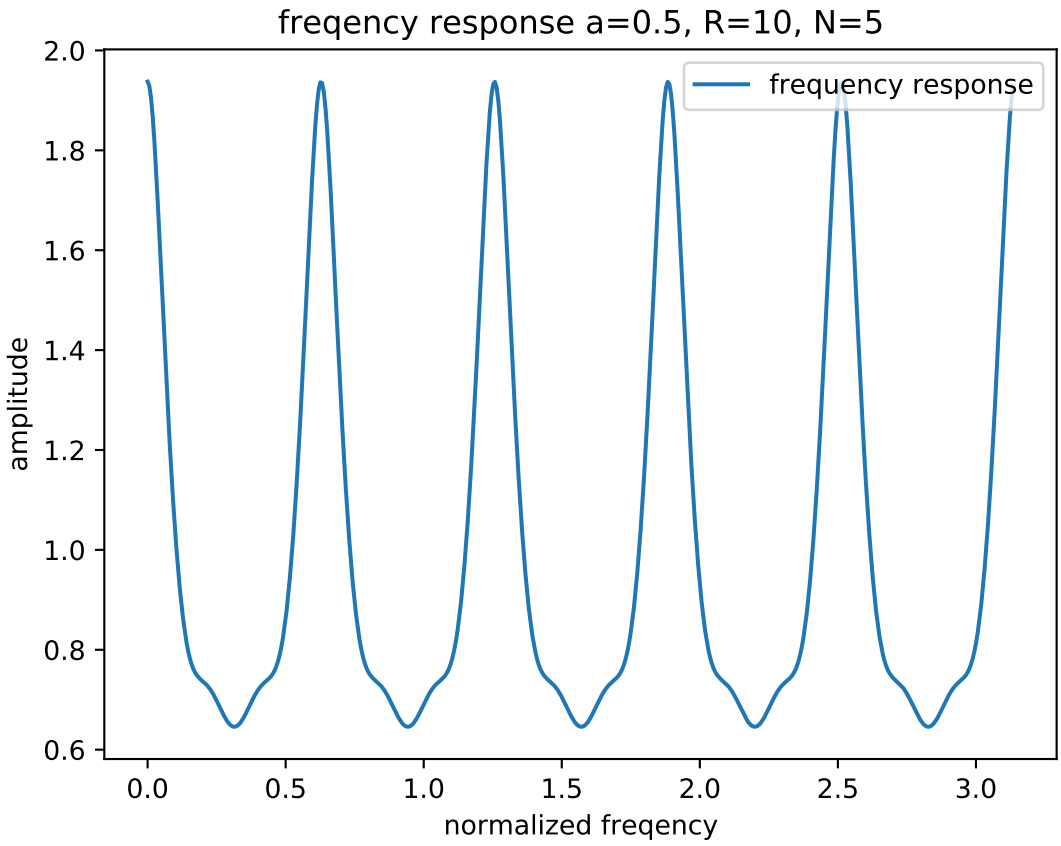

Figure 20: frequency response for $a = 0.5,\ R = 10, N = 5$

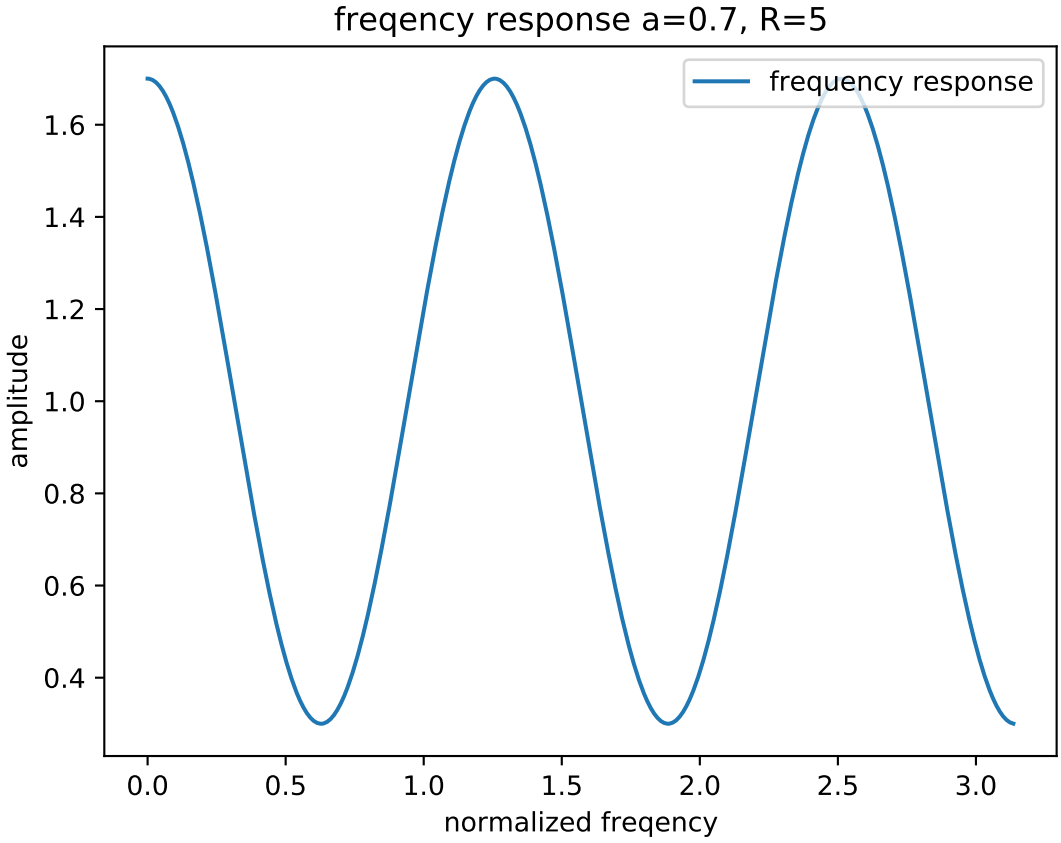

Figure 21: frequency response for $a = 0.7,\ R = 5$

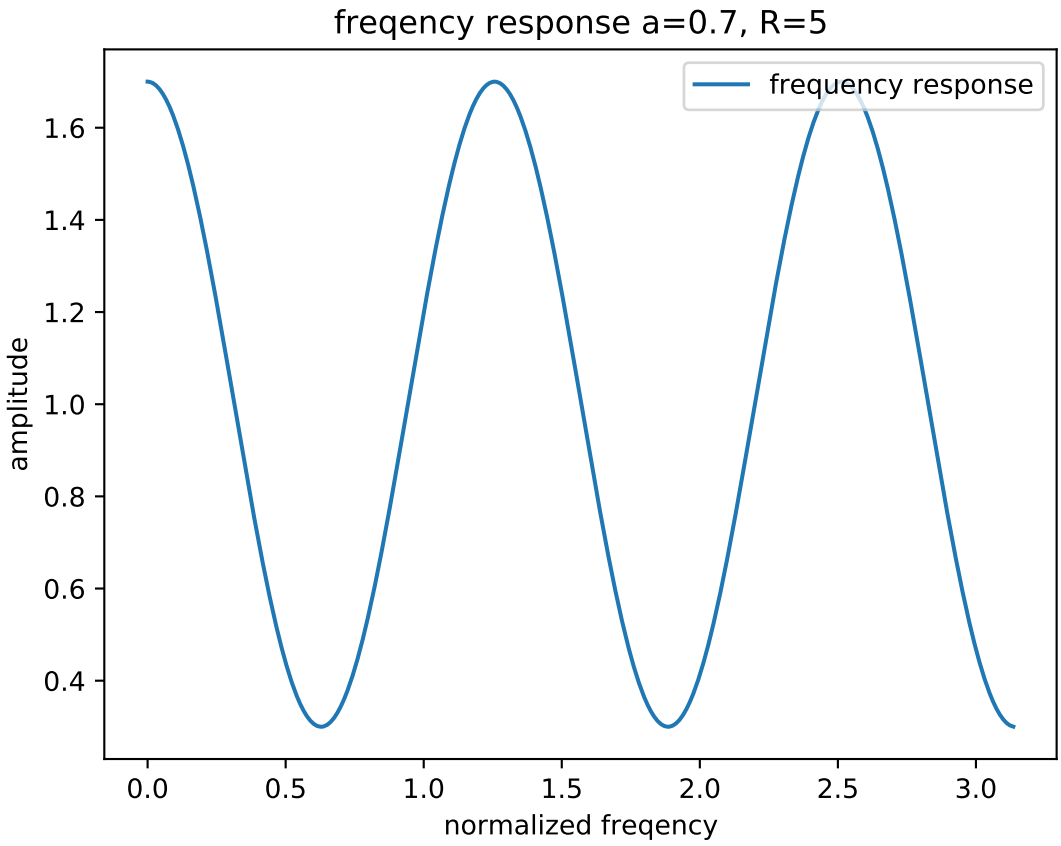

Figure 22: frequency response for $a = 0.7,\ R = 5N = 10$