9.30 Consider the following FIR black-box system. Using the GUI module *g_adapt* to identify this system using the LMS method.

$$H(z) \quad = \quad 1 - 2z^{-1} + 7z^{-2} + 4z^{-4} - 3z^{-5}$$

Save the data in a MAT-file named *my_adapt* and then reload it using the Data source option.

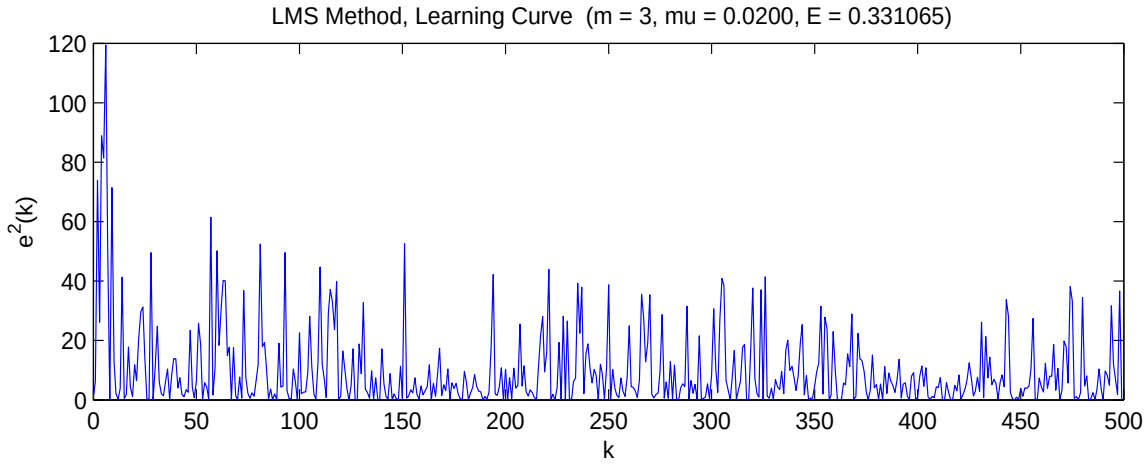
(a) Plot the learning curve when $m = 3$.

(b) Plot the learning curve when $m = 5$.

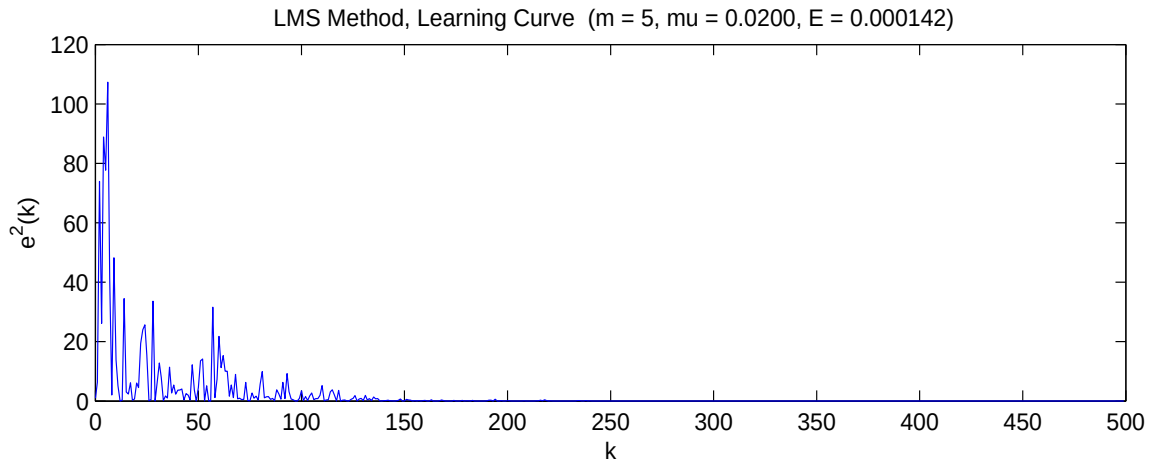
(c) Plot the learning curve when $m = 7$.

(d) Plot the final weights $m = 7$.

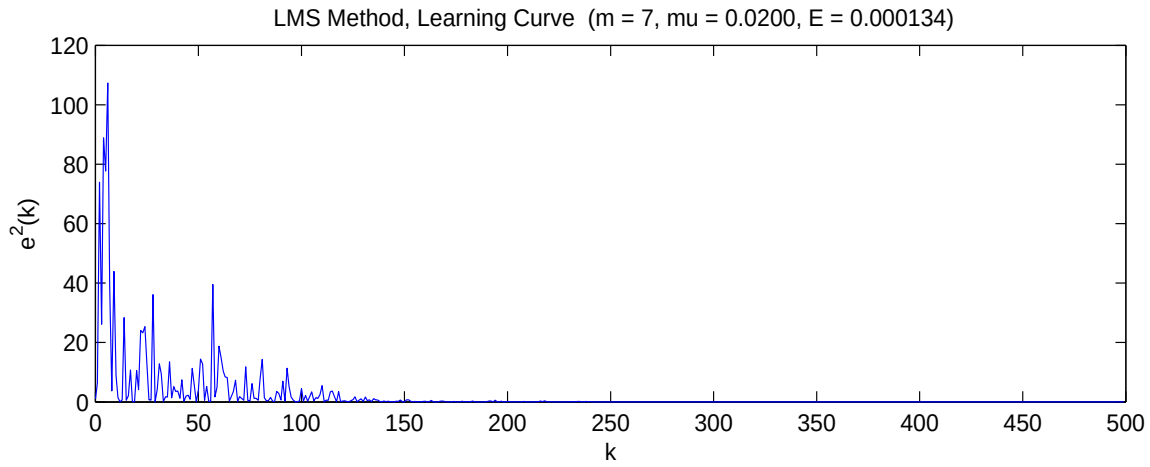
Solution



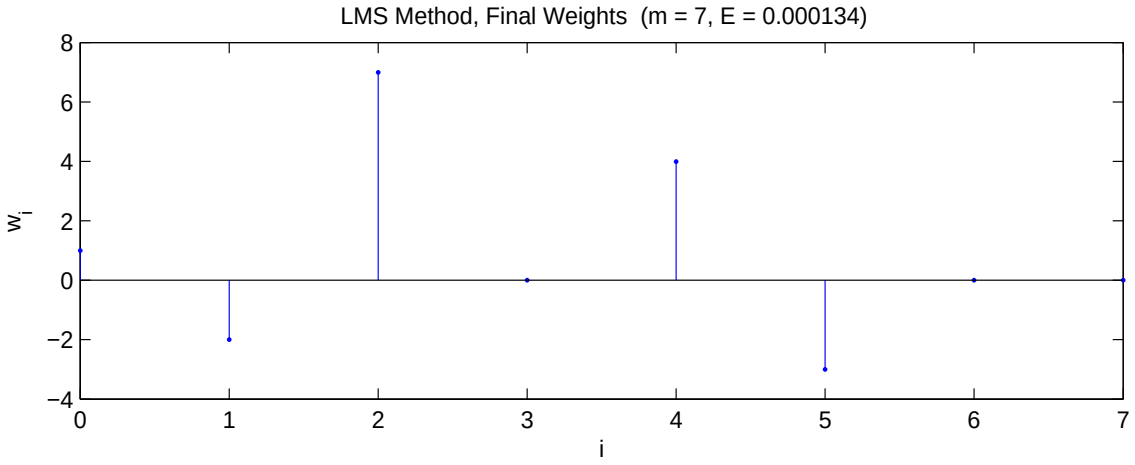
(a) LMS Method Learning Curve: m = 3



(b) LMS Method Learning Curve: m = 5



(c) LMS Method Learning Curve: m = 7



(d) LMS Method Final Weights: m = 7