Linear Prediction with optimal parameters:



How do we find the optimal values of *a*1, *a*2, …., *aL* for prediction?

Mean square error (MSE) is determined from the **test data**



{*x*[*n*] | *n*1 ≤ *n* ≤ *n*2} are training data

{*x*[*n*] | *n*3 ≤ *n* ≤ *n*4} are test data

*n*1 < *n*2 < *n*3 < *n*4

[The method to determine *a*1, *a*2, …., *aL*]:

Object function:



where x[n] (n = n1, n1+1, …, n2) are **training data**

 for *k* = 1, 2, 3, …, *L*





Therefore, 

