Digital Signal Processing Lab (EE 521)
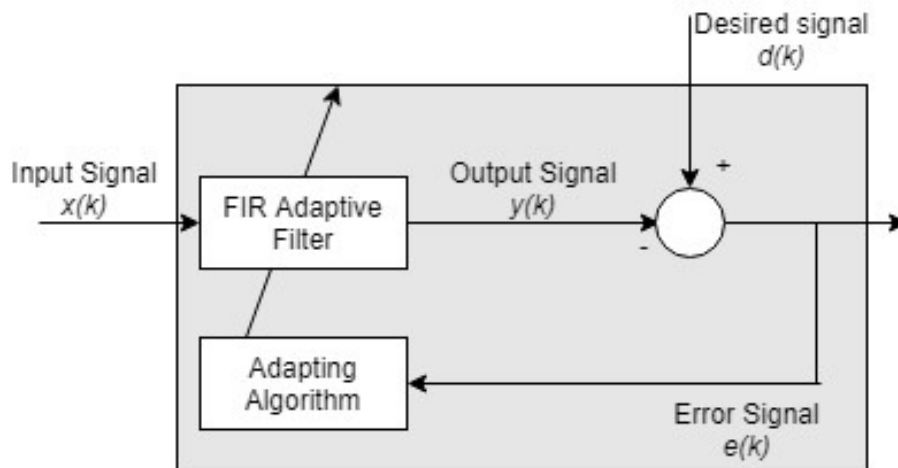
Lab -7 Report

Task:

1. Implementation of Adaptive filter using LMS algorithm

Adaptive filter :

Adaptive filters are a class of filters that can adjust their coefficients or parameters based on the input signal to achieve a desired output. They are used extensively in signal processing applications where the characteristics of the input signal change over time.
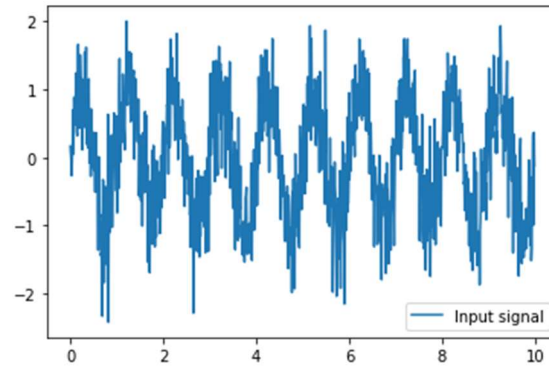
Linear Adaptive filter :

The most commonly used adaptive filter is Linear Adaptive Filter which used least mean square error (LMS) algorithm which adjusts coefficients based on the error signal.
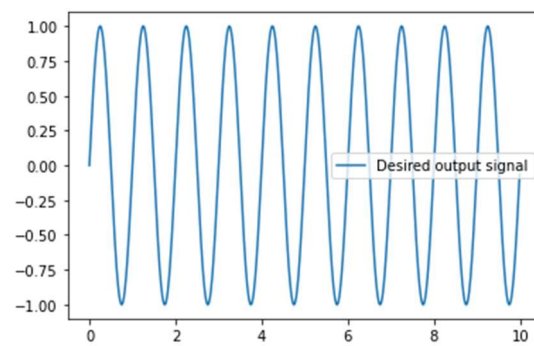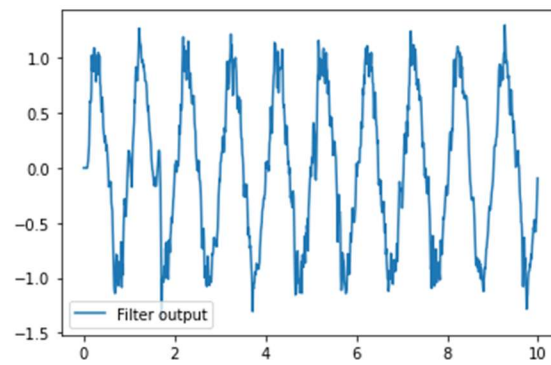

$$y(n) = \sum_{k=0}^{N} w_k(n)x(n-k)$$

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Input signal :

Desired signal :

Adaptive filter output signal :

Code : https://colab.research.google.com/drive/1-divSSiu0GZxEC_YVyUAGNf-HKTrTMK_#scrollTo=T_ny0qkvjgYG

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