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ECE251 Assignment 8 explanation

1. In coming up with my channel estimation scheme I used this article as a reference: <https://www.sciencedirect.com/science/article/pii/S2215098616304542>  
    To find the channel estimate H\_hat, I’m going to use a comb-type set of pilots, meaning that the pilots will be equally spaced throughout each OFDM symbol. Once the OFDM symbols have been passed through the channel, the low-resolution channel estimation will be found by dividing the received pilot symbols by the original pilot symbols. This will give a low-resolution version of the channel response plus the channel noise. This low-resolution response will then be interpolated using shape-preserving piecewise cubic interpolation to estimate the response of the full channel, thus implementing the Least Squares (LS) block in figure 2 of the linked article. For experiment i), each OFDM symbol will use the estimated frequency response developed from that channel’s pilots as that channel’s equalization function. For experiment ii), the estimated responses from each OFDM symbol will be averaged to form the equalization function used for each symbol, which should have a low-pass filtering effect and cut down on the effect of the RX noise.