

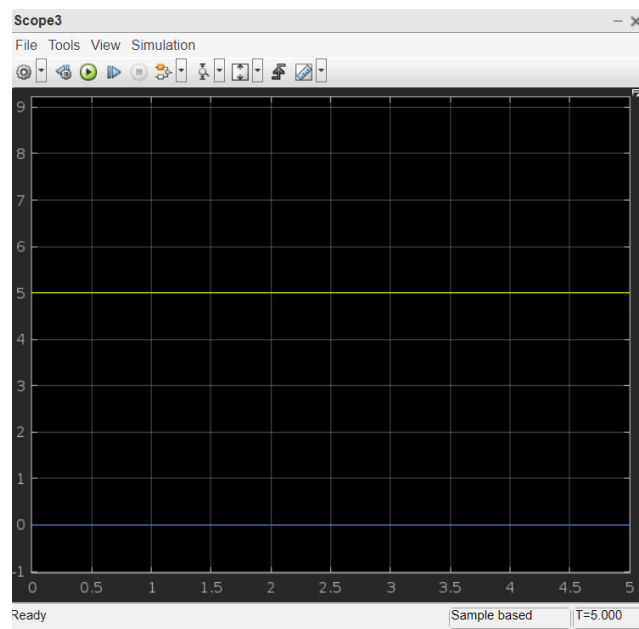
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MAE 476, Sec 3

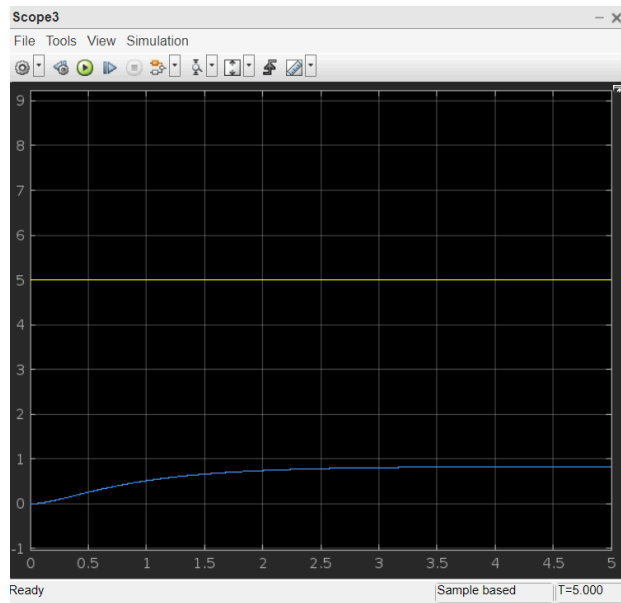
Project 1

Trial 1: $K_p = 0$, $K_i = 0$, $K_d = 0$



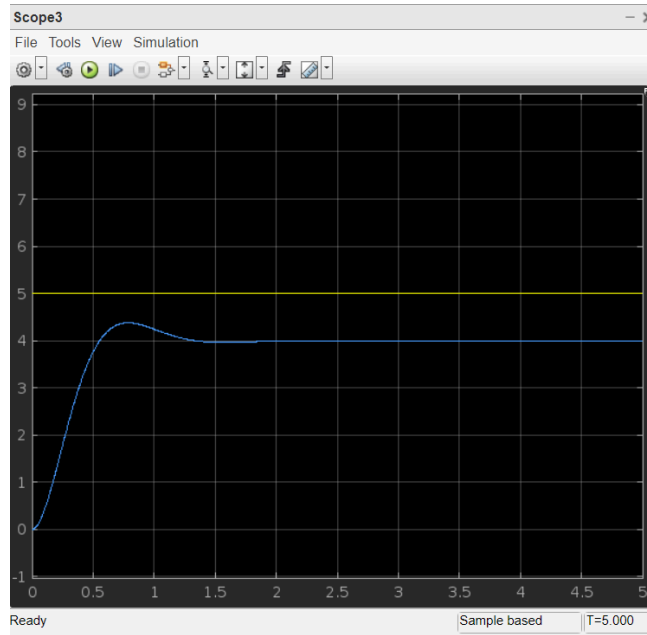
To obtain good tracking, the proportion gain should be increased because there is a large steady-state error.

Trial 2: $K_p = 1$, $K_i = 0$, $K_d = 0$



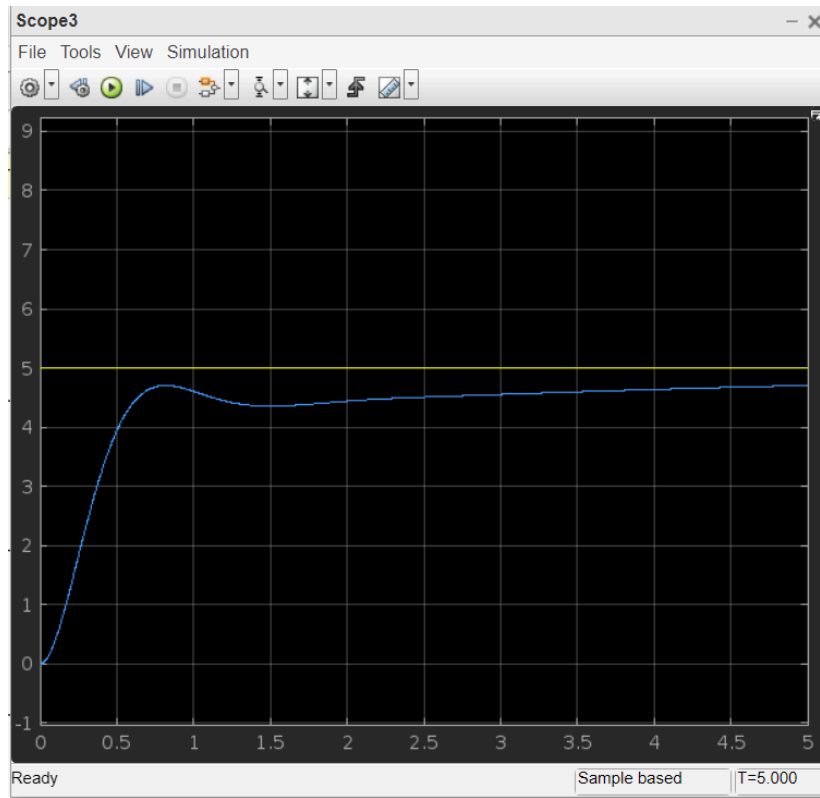
To obtain good tracking, K_p should be increased to decrease the rise time

Trial 3: $K_p = 20$, $K_i = 0$, $K_d = 0$



To obtain good tracking, K_i should be increased because there is a large steady-state error.

Trial 4: $K_p = 20$, $K_i = 5$, $K_d = 0$



To obtain good tracking, K_d should be increased to minimize the overshoot and reduce the oscillation.

Trial 5: $K_p = 20$, $K_i = 5$, $K_d = 2$

