Statistical Machine Learning - HW 3

Problems 1-4: Chapter 5

- **Exercise #1, #3, #5, #8** from Chapter **5**

Problem 5: Chapter 6

Show that the ridge regression estimate is the maximizer of the (log) posterior distribution, under a Gaussian prior $\sim N(0, \tau^2\mathbf{I})$, and Gaussian sampling model $\mathbf{y} \sim N(\mathbf{X}\ , \sigma^2\mathbf{I})$. Find the relationship between the regularization parameter λ in the ridge formula, and the variances τ^2 and σ^2.