

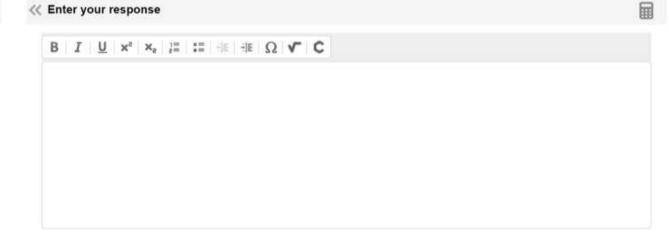
Revisit

Question # 1

Q1: In the class we derived the loss function to be minimized for linear regression by considering that

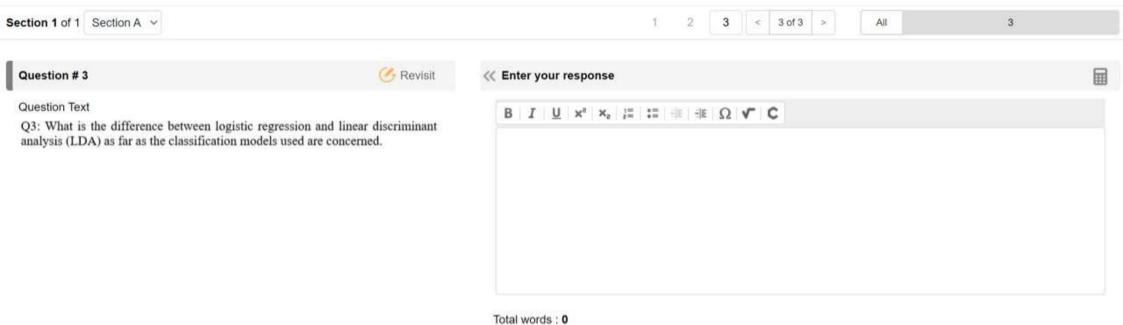
$$\varepsilon^{(i)} = y^{(i)} - h_{\varepsilon}(x^{(i)}), \qquad i = 1, ..., m$$
 which are

independent and identically distributed Gaussian random variables with 0 mean and variance σ^2 . Write the modified loss function to be minimized, if we relax the assumption that each $\varepsilon^{(l)}$ has identical (same) variance (No derivations please).



Total words: 0





Question #1



Q1: Let θ be the true parameter and $\hat{\theta}$ be it's estimate. Derive the expression for MSE using the bias and the variance.

Question # 2



Q2: Consider a covariance matrix of size 2X2. Show that it's distinct eigen values have the corresponding eigen vectors which are linearly independent. Hint: First show the orthogonality then independence follows.