INF 5400 Weekly exercises on linear models

These exercises can give you a hint about how exercises for the written exam can be.

Exercise 1:

a) What is the loss function for linear regression? Describe by words and formula.

b) How does the gradient descent algorithm update w and b?

Exercise 2:

You are given a vector a measurements $x^{(i)}$ and true values $y^{(i)}$

$$x = \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} y = \begin{bmatrix} 1.5 \\ 2 \\ 2.5 \end{bmatrix}$$

a) Plot y and x as points.

b) If we start with w=0 and b=0, what is the initial value for the loss function?

c) Compute the next estimate of w and b , after 1 iteration of gradient descent.