INF 5860 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 the θ's?

Exercise 2:

You are given a vector a measurements x and true values y

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

a) Plot y and x as points.

b) If we start with θ^0=0 and θ^1=0, what is the initial value for the loss function?

c) Compute the next estimate of θ^0 and θ^1, after 1 iteration of gradient descent.

1b: