

# Machine Learning - Homework 02

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## Exercise 1:

Table 1 describes the mean and the standard deviations of  $x_1$ ,  $x_2$ ,  $x_3$ :

|       | Mean  | Std   |
|-------|-------|-------|
| $x_1$ | 15.00 | 4.966 |
| $x_2$ | -0.45 | 1.369 |
| $x_3$ | 0.00  | 1.825 |

Table 1: Mean and the standard deviations of  $x_1$ ,  $x_2$ ,  $x_3$

Table 2 describes the normalized data:

|       | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | D <sub>4</sub> |
|-------|----------------|----------------|----------------|----------------|
| $x_1$ | -0.60          | 1.21           | 0.4            | -1.01          |
| $x_2$ | -1.13          | -0.40          | 1.2            | 0.33           |
| $x_3$ | -0.55          | 1.10           | -1.1           | 0.55           |

Table 2: Normalized data

## Exercise 2:

The code for this exercise is attached in the mail.

## Exercise 3:

The line which should be changed is:

```
error <- BNorm[3,i]-prediction
```

and it should be replaced by:

```
error <- BNorm[3,i]-(w0+w1*BNorm[1,i]+w2*BNorm[2,i])
```