Take home 2

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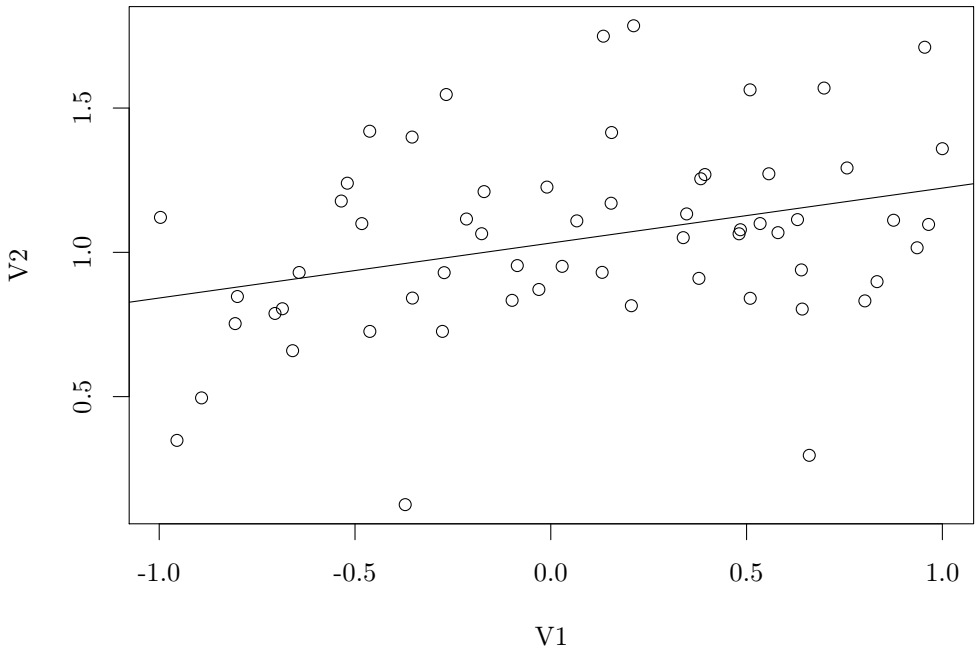
Question 1

(a)

The value for the intercept of the fit is 1.0321764 and for the rico of the fit is 0.1904323



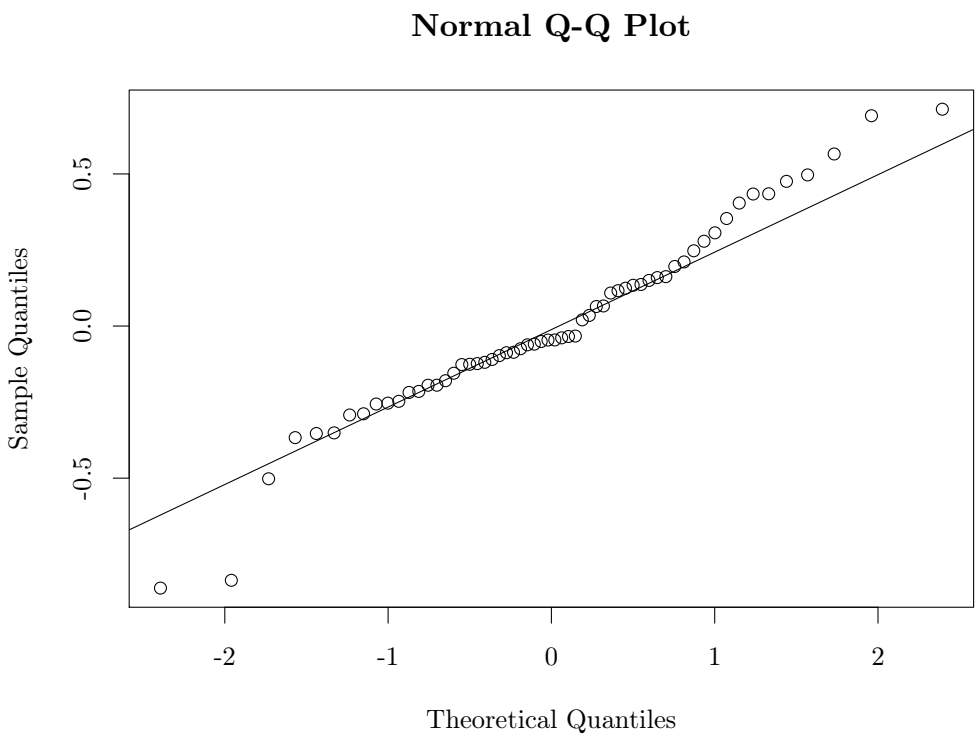
Figuur 1: line fit throught the data in Ex1.txt

(b)

Using the result from section 7.4.1 in <REFERENCE cursus> we know that the random variable

$$T = \frac{\beta_1}{\sqrt{\frac{S^2}{\sum_{i=1}^{n}(x_i - \bar{x}^2)}}} \tag{1}$$

has a Student distribution with $n-2$ degrees of freedom. The test value is 0.345. Using a student-t distribution with $60-2=58$ degrees of freedom we find a p-value of 0.366. At the confidence level $\alpha = 0.01$, we have that $\beta_1 = 0$.



Figuur 2: qq plot for the errors on the fit