Probability and Statistics for Engineers Lab Four
TMATH 390

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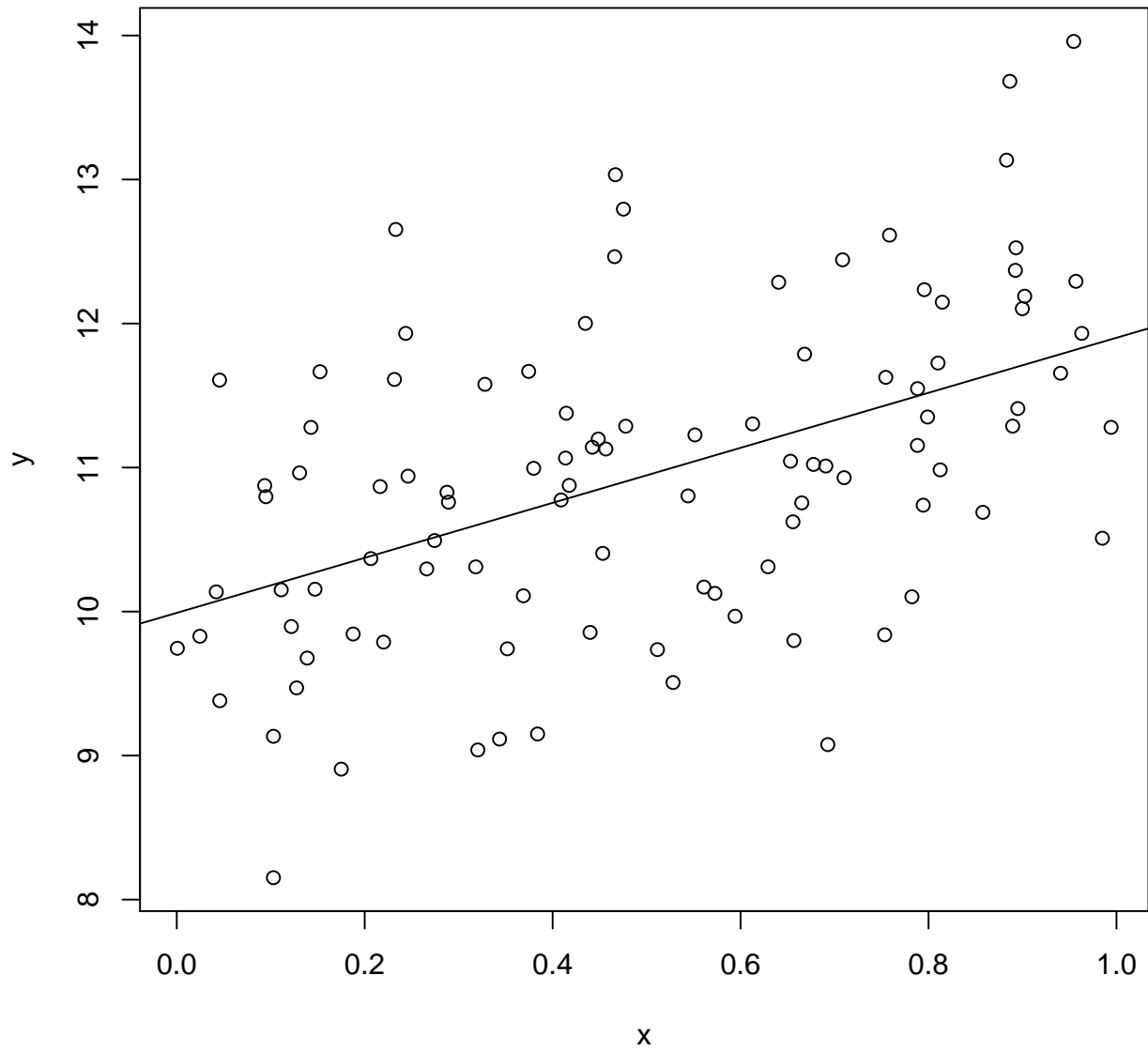
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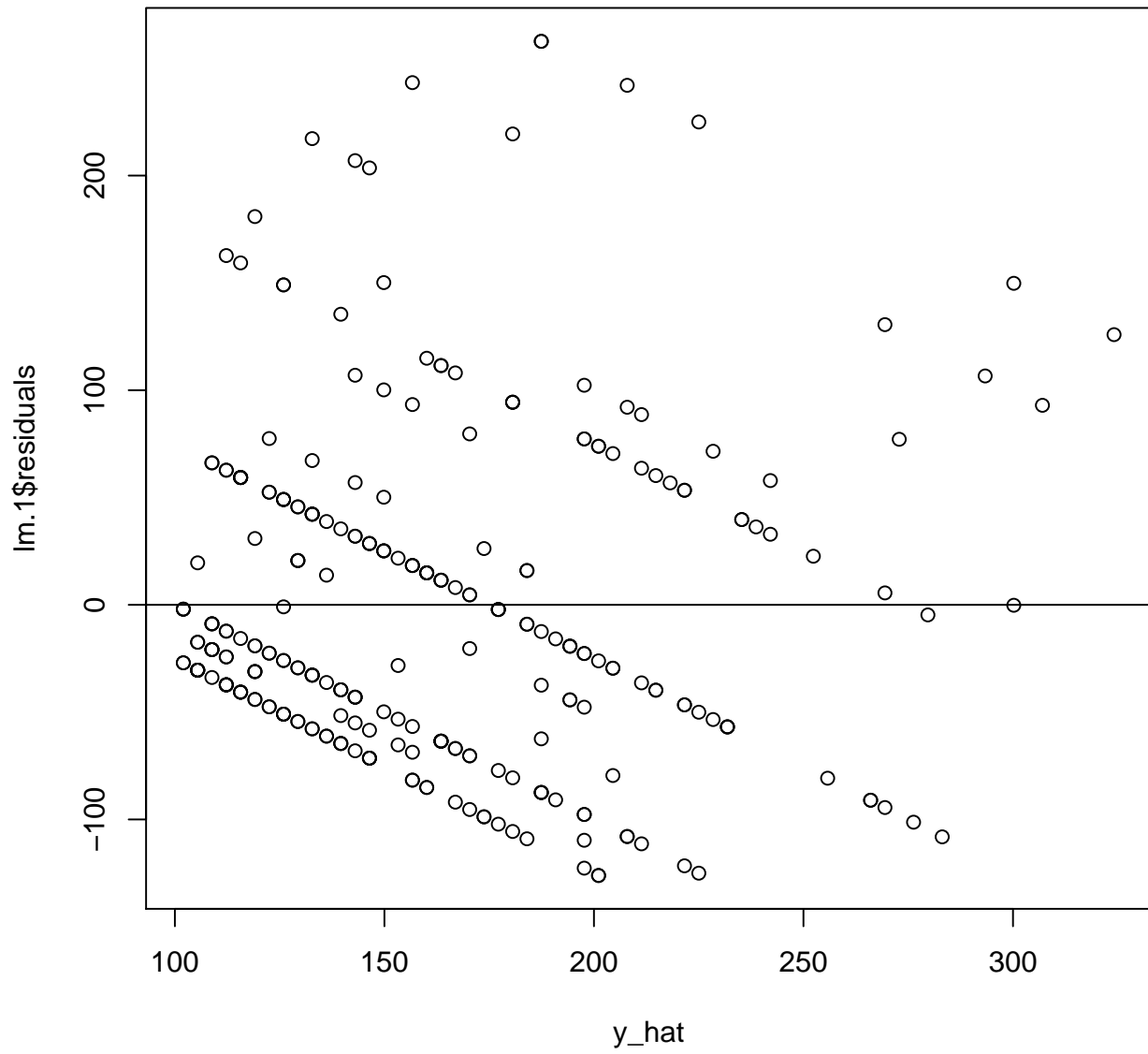
Contents

First Printout

Second Printout

Third Printout

Lab Exercise

Here is some data:

x: 0 2 4 6
y: 1 7 55 400

(a) What is the value of R^2 for a line through this data?
(b) Give one reason for why this value of R^2 is not very high (e.g., 0.9)

Turn in both parts along with the plots asked for.
For part (a), give me the code you typed to produce R^2 along with the value.

Answer to part a In order to find R^2, all we have to do is input the command `summary(lm(y ~ x))` which will give us an R^2 value of 0.7079.

Answer to part b The value of R^2, while still pretty high, is not extremely high mainly because of the extreme outlier (6,400) all the way up in the corner of the graph. If it weren't for this point, then our R^2 value would be higher along with our r value. It could also be because we don't have that many data points, and so extreme outliers have a much greater effect on R^2.
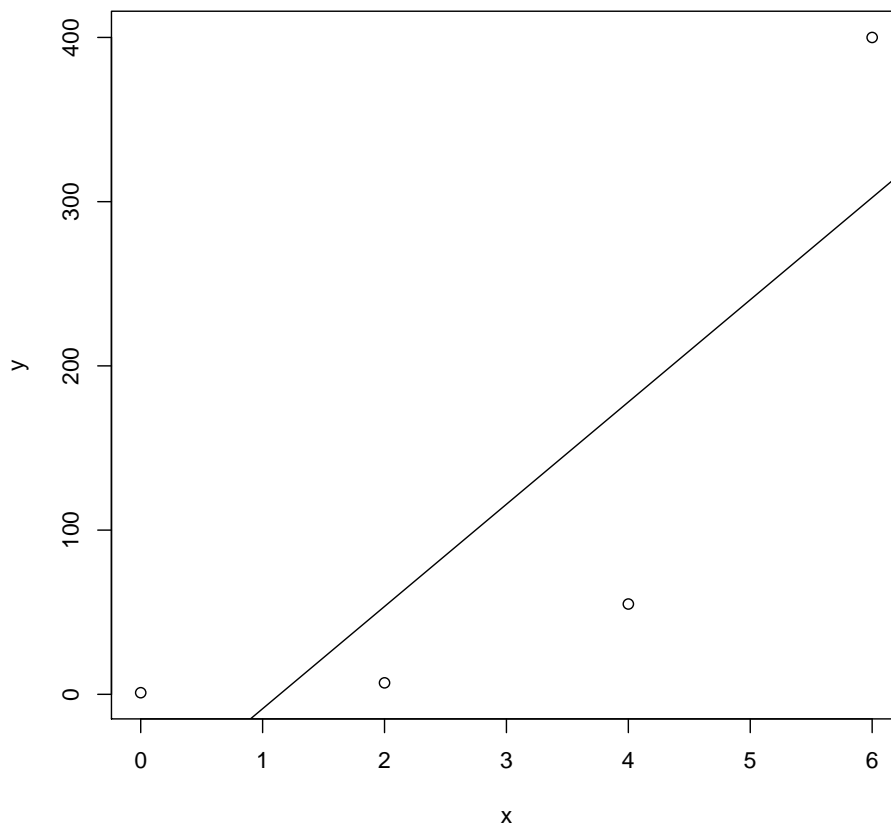

Figure 1: Lab Exercise