MACQUARIE University
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Report for
ACE Chemical

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1 Introduction

In a famous paper, Box and Cox [1964] introduced a family of transformations . . .

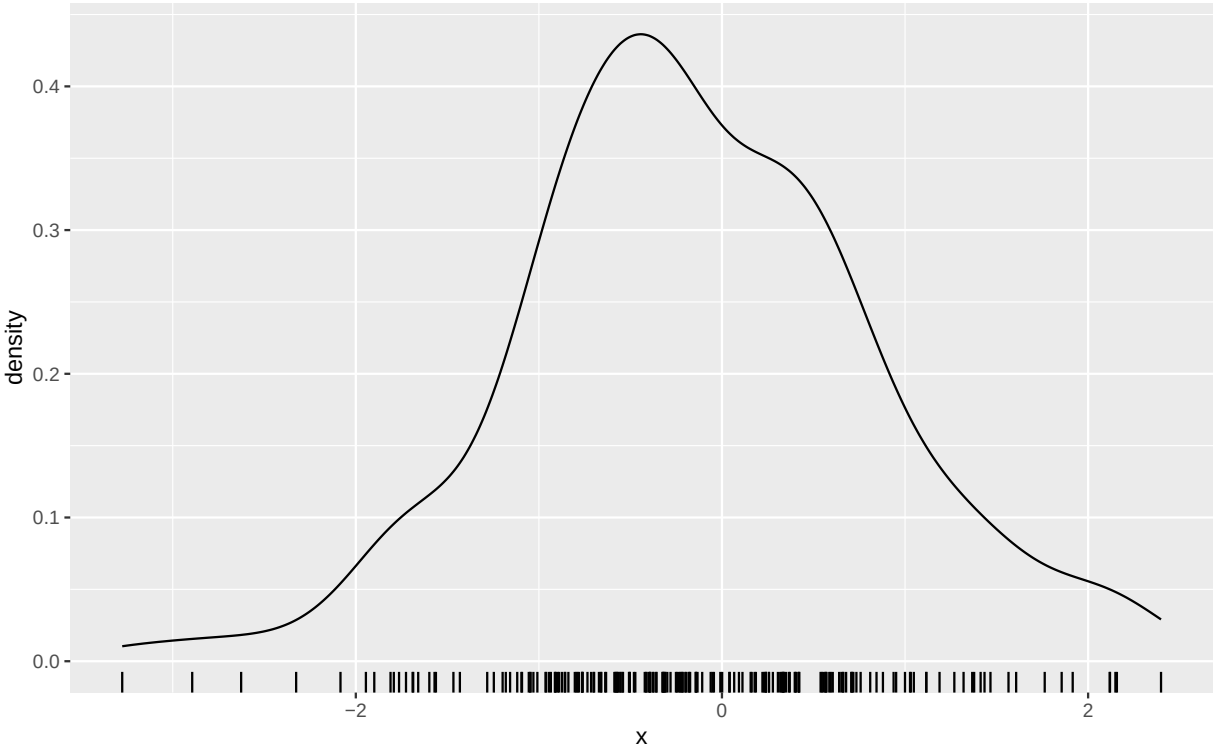

Figure 1: *Simulated data from a N(0,1) distribution.*

Figure 1 shows a kernel density estimate of simulated data from a N(0,1) distribution. The sample variance is given by

$$s^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2 = 0.98. \tag{1}$$

Note that Equation 1 is an unbiased estimate of the variance, but it is not the maximum likelihood estimate [Rice, 2007, p.269].

References

G. E. P. Box and D. R. Cox. An analysis of transformations. *Journal of the Royal Statistical Society, Series B*, 26(2):211–252, 1964.

J. A. Rice. *Mathematical Statistics and Data Analysis*. Duxbury, 3rd edition edition, 2007.