MONASH University

Expert advice from experts

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1 Introduction

In a famous paper, Box & Cox (1964) introduced a family of transformations ...

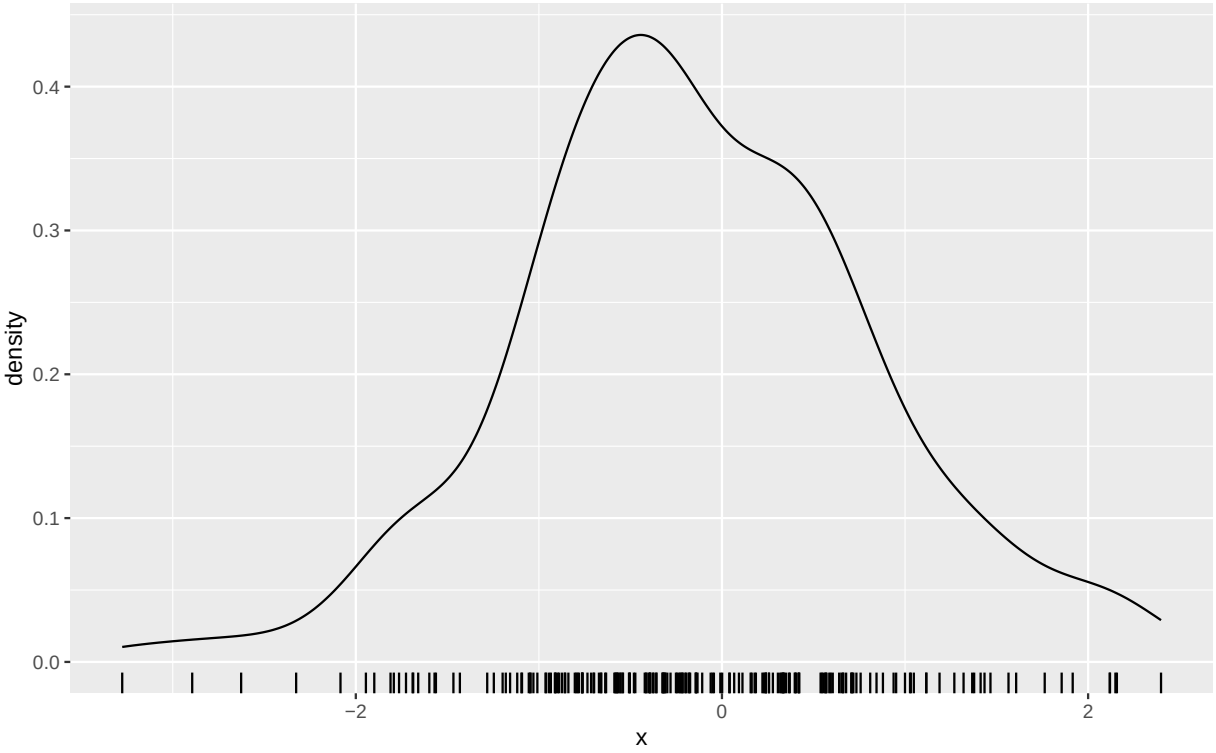

Figure 1: *Simulated data from a N(0,1) distribution.*

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

Box, GEP & DR Cox (1964). An analysis of transformations. *Journal of the Royal Statistical Society, Series B* **26**(2), 211–252.

Rice, JA (2007). *Mathematical Statistics and Data Analysis*. 3rd edition. Duxbury.