

formatting exercise

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Extract from:

Bradley Efron and Trevor Hastie

Computer Age Statistical Inference: Algorithms, Evidence, and Data Science Cambridge University Press, 2016 https://web.stanford.edu/~hastie/CASI_files/PDF/casi.pdf

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Modern Bayesian practice uses various strategies to construct an appropriate “prior” $g(\mu)$ in the absence of prior experience, leaving many statisticians unconvinced by the resulting Bayesian inferences. Our second example illustrates the difficulty.

Table 3.1 Scores from two tests taken by 22 students, mechanics and vectors.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------|----|----|----|----|----|----|----|----|----|----|----|
| mechanics | 7 | 44 | 49 | 59 | 34 | 46 | 0 | 32 | 49 | 52 | 44 |
| vectors | 51 | 69 | 41 | 70 | 42 | 40 | 40 | 45 | 57 | 64 | 61 |

| | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|-----------|----|----|----|----|----|----|----|----|----|----|----|
| mechanics | 36 | 42 | 5 | 22 | 18 | 41 | 48 | 31 | 42 | 46 | 63 |
| vectors | 59 | 60 | 30 | 58 | 51 | 63 | 38 | 42 | 69 | 49 | 63 |

Table 3.1 shows the scores on two tests, mechanics and vectors, achieved by n D 22 students. The sample correlation coefficient between the two scores is $\hat{\theta} = 0.498$,

$$\hat{\theta} = \sum_{i=1}^{22} (m_i - \bar{m})(v_i - \bar{v}) \div \left[\sum_{i=1}^{22} (m_i - \bar{m})^2 \sum_{i=1}^{22} (v_i - \bar{v})^2 \right]^{1/2}$$

with m and v short for mechanics and vectors, \bar{m} and \bar{v} their averages.