Including mathematical symbols in R Markdown

TLS

2024-03-27

Making math symbols

I might want to refer to a greek letter, such as α, μ, σ, etc. There are other symbols common enough you would want to know, such as $\neq$, $\geq$, $\leq$, $\pm$, $\bar{x}$, $\hat{p}$, and the like. If the symbol can be produced in LaTeX, then it (most often) can be produced in R Markdown in much the same way.

More complicated formulas

Here is the quadratic formula: $x = -\frac{b}{2a} \pm \frac{\sqrt{b^2-4ac}}{2a}$

The same formula is more impressive when set apart from other text.

$$x = -\frac{b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$$

The formula for sample standard deviation

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

Stating Hypotheses

hypotheses: 2-sample t

$$H_0 : \mu_1 - \mu_2 = 0$$
$$H_a : \mu_1 - \mu_2 \neq 0$$

or this fancier(?) version

$$\mathbf{H}_0 : \mu_1 - \mu_2 = 0 \qquad \text{vs.} \qquad H_a : \mu_1 - \mu_2 \neq 0$$

For 1-way ANOVA:

$$\mathbf{H}_0 : \mu_1 = \mu_2 = \cdots = \mu_k \qquad \text{vs.} \qquad \mathbf{H}_a : \text{at least two group means are different}$$