Hypothesis Testing

or: How I Learned to Stop Worrying and Love Inferential Statistics

Objectives

1 State the null and alternative hypothesis

What is Hypothesis Testing?

Hypothesis testing is the process of testing a claim about a (population) parameter by obtaining a sample and analyzing the results against that parameter.

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Alternative Hypothesis

The **alternative hypothesis**, denoted H_A , is the new claim that is made against the null hypothesis.

Left-tailed

- Left-tailed
 - H_A : parameter $< H_0$

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 - H_A : parameter $< H_0$
- Right-tailed

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 - H_A : parameter $> H_0$
- Two-tailed
 - H_A : parameter $\neq H_0$

Example 1

Determine the null and alternative hypotheses for each.

(a)

p-Value

Recall that **statistically significant** means that something is not likely to occur by chance.

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