Week_9_t-test_why_it_works

Cici

2019.12.31

LO:

1. Understand the mathematics behind the t-test.
2. Use the Student's t-distribution to determine the significance of a given sample.
3. Describe the assumptions that need to be met to apply the t-test appropriately.

Notes:

- Student's t-distribution: continuous, symmetriic and bell-shaped, derived from a small sample size where the population standard deviation is unknown.
- Calculation: t = Z/s PPT 8/26
- degree of freedom: n - 1
- t-test in R:

t.test(SAMPLE, mu = VALUE)

- Assumptions needed for t-test.

1. data is continuous and randomly-selected.
2. the sampling distribution is normally distributed. (If not normally distributed, transformation can make data more "normal")
3. mean and standard error are independent.

Functions:

scan("xxx.txt")

t.test(x, y = NULL, alternative = c("two.sided", "less", "greater"), mu = 0, paired = FALSE, var.equal = FALSE, conf.level = 0.95, ...)