**Procedure of a permutation test (a substitute for classic calculation for significance):**

1. Calculate the observed t-statistic, as in the parametric approach; call this t0.

2. Place all 10 scores in a single group.

3. Randomly assign five scores to Treatment A and five scores to Treatment B.

4. Calculate and record the new observed t-statistic.

5. Repeat steps 3–4 for every possible way of assigning five scores to Treatment A and

five scores to Treatment B. There are 252 such possible arrangements.

6. Arrange the 252 t-statistics in ascending order. This is the empirical distribution, based

on (or conditioned on) the sample data.

7. If t0 falls outside the middle 95% of the empirical distribution, reject the null

hypothesis that the population means for the two treatment groups are equal at the

0.05 level of significance.

**Procedure of a bootstrapping (for confidence interval of unspecified-distribution variables):**

1. Randomly select 10 observations from the sample, with replacement after each

selection. Some observations may be selected more than once, and some may not be

selected at all.

2. Calculate and record the sample mean.

3. Repeat the first two steps 1,000 times.

4. Order the 1,000 sample means from smallest to largest.

5. Find the sample means representing the 2.5th and 97.5th percentiles. In this case, it’s

the 25th number from the bottom and top. These are your 95% confidence limits.

图形用户界面, 应用程序, 表格

描述已自动生成

图形用户界面, 应用程序

描述已自动生成

The above take the form: *function\_name( formula, data*, distribution= )

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成

图形用户界面, 文本, 应用程序

描述已自动生成

**To obtain confidence intervals:**

图形用户界面, 文本, 应用程序, 电子邮件

描述已自动生成