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# ADJUSTED WILCOXON SIGNED RANK TEST TABLES

## Abstract:

Ordinary Wilcoxon signed rank test table provides the confidence interval of median for a single population. Adjusted Wilcoxon signed rank test tables which can provide confidence intervals of median and the 10th percentile for a single population are created in this paper. Base-(n+1) number system and theorems about property of symmetry of the adjusted Wilcoxon signed rank test statistic are derived for programming. Theorem 1 states that the adjusted Wilcoxon signed rank test statistic are symmetric around n(n+1)/4. Theorem 2 states that the adjusted Wilcoxon signed rank test statistic with the same number of negative ranks k are symmetric around k(n+1)/2. 87.5% and 85% confidence intervals of the median are given in the table for n=12, 13,..., 30 to create approximated 95% confidence intervals of the ratio of medians for two independent populations. 95% and 92.5% confidence intervals of the 10th percentile are given in the table for n=26, 27,..., 30 to create approximated 95% confidence regions of the ratio of the 10th percentiles for two independent populations. Finally two large datasets from wood industry will be partitioned to verify the correctness of adjusted Wilcoxon signed rank test tables for small samples.

## Keywords:

Base-(n+1) number system, Programming, Property of symmetry, Adjusted Wilcoxon signed rank test table, Ratio of percentiles.

**JEL Classification:** C69