Math 8452, Homework #4. Due on 6/24/20 (Wed section) or 6/25/20 (Thu section).

Reading from the textbook:

- Read Sections 6.1 and 6.2 on the Kruskal-Wallis and Jonckheere-Terpstra tests.
- For next week, read Section 4.3 on confidence intervals for the shift parameter in the two-sample problem. These confidence intervals go with the rank sum test.
- For next week, read Section 6.9 on simultaneous confidence intervals for all pairwise shifts.
- For next week, read Sections 7.1 and 8.1 on Friedman's test and Kendall's test.

2 and 3题书上common 都有

Problems to do:

到底是是要不要除以3!

1. (To turn in.) Using listing, find the permutation null distribution of the Kruskal-Wallis test statistic when $k = 3$, $n_1 = n_2 = n_3 = 2$, and there are no ties in the data.

2. (Not to turn in.) Do problem 6 on page 213.

3. (To turn in - answers and R code.) Do problem 8 on page 213. Please use the built-in R function. In addition to solving the problem, please plot the data and comment on (i) whether the test results are consistent with the plots and (ii) whether the shift model seems reasonable here.

第4题我翻了一个大错，看清楚你的假设，是upper还是lower

4. (To turn in - answers and R code.) Do problem 17 on page 225.

这个题的排序有我有疑惑， 有 tie 会如何

5. (To turn in.) Using listing, find the permutation distribution of the Jonckheere-Terpstra test statistic when $k = 3$, $n_1 = 1$, $n_2 = 2$, $n_3 = 1$, and there are no ties in the data.

6. (To turn in - answers and R code.) Given each scenario, create small data sets (no more than five values from each population) with $k = 3$ such that the stated conditions hold. (a) The Kruskal-Wallis test is significant at level 0.05, but the Jonckheere-Terpstra test is not. (b) The Jonckheere-Terpstra test is significant at level 0.05, but the Kruskal-Wallis test is not.

7. (To turn in.) Using ~~listing~~, do a level-0.2 permutation F test, reporting your hypotheses, p-value, and conclusion. Hint: Be sure to list the possibilities in the most efficient possible way.

Sample	Values
1	10
2	15, 20
3	0, 5

注意这个排法和我们6个value的排法不太一样，但是其实道理是一样的

这题妈的也错了， 注意size不一样呢，不可以用最简单的那个办法