Chapter Project

Home Sweet Home: Using Nonparametric Tests to Compare Home Prices

Use the **Mount Pleasant Real Estate Data** which contains information about properties for sale in three subdivisons of Mount Pleasant, South Carolina in the year 2017.

Data

The data can be found at stat.hawkeslearning.com **Data Sets > Mount Pleasant Real Estate Data.**

1. Download the **Mount Pleasant Real Estate Data** into a statistical software package like Excel or Minitab.
2. Classify the three variables *List Price*, *Square Footage*, and *Subdivision* as qualitative or quantatitive and provide the level of measurement (nominal, ordinal, interval, or ratio).
3. Which of the quantitative variable(s) should be considered as the dependent variable? Why?
4. Use statistical software to make a histogram for *List Price* and describe the distribution.
5. Can we use the *t*-test to see if the **mean** home price is more than $500,000? Why or why not?
6. Since the underlying distribution is not normal, we have an opportunity to use nonparametric methods to analyze the data. Can we conclude that the **median** *List Price* in Mount Pleasant in 2017 is more than half a million dollars? State your hypotheses and perform a Sign Test using $\alpha = 0.05$.
7. Create side-by-side boxplots of *List Price* for the three Mount Pleasant subdivisions: Carolina Park, Dunes West and Park West. Describe the distributions of the three subdivisions and comment about their variability.
8. Use the Wilcoxon Rank-Sum Test to see if the distribution of *List Price* in Park West in 2017 is to the left of that in Dunes West.