P Discovery Project

Data

This data set can be found on stat.hawkeslearning.com under **Discovering Business Statistics, Second Edition > Data Sets > JDC Realty Property Sales Prices**.

Describing Real Estate Data

Answer the following questions regarding the realty data gathered on the selling prices and commissions of properties sold by JDC Realty in Southwest Virginia.

Use the JDC Realty Property Sales Prices data set. This data set contains information about 240 properties sold between January 2020 and November 2020.

Note that the gross commission paid is equal to the commission percentage multiplied by the sales price. Also note that the amount paid to the agent, the amount paid for referrals, agent liability costs, and the net office amount add up to the gross commission paid.

1. Create a histogram of the property sales prices. Do the data appear symmetric or skewed? Are there any outliers?
2. Calculate the following measures of location for sales prices and compare them: mean, median, 10% trimmed mean. Which of these measures do you think gives us the best estimate of the center of the data and why?
3. Calculate the variance and standard deviation of sales prices.
4. Use Chebyshev's Theorem to find the range of values in which at least 75% of the sales price data will reside.
5. Calculate the five summary measures needed to construct a boxplot of sales prices and create the boxplot.
6. Calculate the interquartile range for sales prices and use this value to identify any potential outliers.
7. Create a scatterplot of Pay Agents vs. Sales Price.
8. Calculate the correlation coefficient between Pay Agents and Sales Price. Describe the relationship indicated by the scatterplot and the correlation coefficient. Can you think of any factors that might affect the value of the correlation coefficient?
9. Subset the data to only include the observations that have nonzero values for Pay Agents. Create a new scatterplot and calculate the correlation coefficient for the subsetted data. Describe your results.