Recommendation:

Based on the findings in our data, we would like to recommend an Airbnb that is in the Shaw neighborhood. It would be recommended that the Airbnb listing be the entire home or apartment with the purchaser striving to become a super host. This recommendation is based on the data we gathered wherein it is noted that Shaw had the 3rd least amount number of listings. This can represent that there is a healthy amount of demand for the area, but it isn’t saturated with listings as the two highest neighborhoods, coming in with almost 200 less listings than the most saturated area, Union Station. Additionally, Shaw has the 2nd largest average price of listing when looking at price aggregated by neighborhood. This represents once again the opportunity of not only having a lower barrier of entry with competition in number of listings, but also the ability to price your Airbnb in a way that gives a larger ROI (return on Investment) than every other area except Georgetown. When listing the Airbnb, it is heavily recommended that the listing is for the entire home/apartment. When looking at the data, we see that not only is many listings, regardless of neighborhood, was the entire home/apt, but we saw that specifically, had an average price of 237 a night for the entire home/apt vs 167 a night for a private room.

It should also be considered striving to become a super host with a moderate number of bedrooms as our linear regression model found that both statuses had a significant impact on pricing, showing that one can charge more for per night if they have more bedrooms to accommodate larger groups and have a super host status. Conclusively, while area’s such as Georgetown had a higher average price per night, the number of listings were low in comparison to the other areas barring Foggy Bottom, signaling that there may not be as high a demand for the area, or there is a higher cost barrier for even purchasing the Airbnb property. On the other hand, it was decided against places such as Union Station and Capitol Hill due to the already high number of listings, signaling a very competitive scene which is reflected in their pricing as the competition is putting some downward pressure on their average price per night. We believe that Shaw represents a great opportunity with enough demand but not too much competition and possible barriers to entry, providing the correct environment to have a thriving Airbnb business.

7.) The linear regression line for the model presented in question 7 is shown as Price = 40.96 +108.91x1 + 7. 32. The constant is listed as 40.96 meaning that the base price is 40.96 dollars and will go up or down from there based on the variables introduced. The constant has a standard error of +- 6.36. The coefficients bedroom and super host has an influencing value of plus 108.91 and 7.32 respectively with a matching 3.22 and 5.67 standard error. Overall, the residual standard error is 100.5 meaning that the y value may be off by 100 dollars. Overall, there is a r-squared value of .4797 with a closely followed adjusted r-squared value of .4789. This means that roughly 48% of the price in the listings can be explained by the coefficient’s bedroom and super host, and with a p-value < .05, the overall statistical model significance is high. When running the linear model throw the plot() function, we see that there is no violations of the model assumption through linearity. There is a clear random scatter of points around the horizontal axis with no curve or funnel shape.