**PROJECT 1 PRESENTATION OUTLINE**

Tools used: We used the following python libraries when analyzing the data: Pandas, Seaborn, numpy, matplotlib, and scipy.

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**ANDREW**

In the beginning, we agreed to analyze return of investment data for first-time home buyers in Boston, Massachusetts. However, due to the inaccessibility of certain financial records once these first-time home buyers sold their homes, we concluded that we needed to alter our research question(s). After some brain storming, we decided to analyze data about the most attractive characteristics people look for when purchasing a home in Boston.

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As a group we needed to answer one important question: what defines a house? We define a house as a single dwelling legally occupied by one or more tenants with one or more of those tenants paying a property tax, which contributes to the revenue of the Commonwealth of Massachusetts.

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To keep this project simple, we focused on data from two websites. The first set of data came from Kaggle. Previous work on this data set provided some well-needed inspiration. Secondly, we retrieved data from Zillow. Regarding the Zillow data, we looked at CSV files from 2018 to 2022.

**MO:**

Used matplotlib, pandas, numpy, and seaborn. First, I queried the data and filtered homes that cost at most $600,000 built after 1900 containing less than 7 rooms. Once I had this data, I discovered that the average home cost $488,000. Next, the most popular zip code was 2132, which is the suburb of West Roxbury. 2109, 2186, 2445, and 2026 were tied for the least popular zip codes. These four zip codes are spread out throughout the numerous suburbs of Boston. 2109 is the only one in downtown Boston. Once I extracted the data, I created two visualizations that I’d like to share. First is a double column chart and the next one is a scatter plot.

**SAVANNAH**

Using pandas, matplotlib. I queried some data with the goal of trying to find the average median home prices from 2018 to 2023. By using matplotlib to create a line chart, you can see that median home prices increased every year. In conclusion the median home value increased by 44%. This proves that homebuyers are receiving a positive ROI within the city of Boston.

**ALEX:**

This analysis applies many statistical measures. Analyzing numerous factors that home buyers will assess when purchasing a home. Some of these factors include the number of parking spots for a tenant’s vehicle, roof type, A/C type and house type. This analysis will quantify the correlation with each factor. I will use matplotlib to create some charts for the audience to view.

**FINAL ANALYSIS:**

Following the basic economic principal of supply and demand, we concluded that the most popular homes were three-bedroom homes located outside the downtown city limits. In addition to the number of bedrooms, newer homes built in the last 40 years attracted a significant number of buyers, which ultimately affects the resale value, and providing the seller with a good return of investment. The median home values have risen steadily over the last five years, totaling a 44% increase between 2018 and 2023.

**TAKE AWAY:**

Our group members learned that we had to be extremely agile. With personnel and rubric changes, we had to quickly adapt to make sure we completed our assignment on time. Through solid and efficient communication, we were able to assist each other with successful data exploration, data cleansing, and data analysis practices.