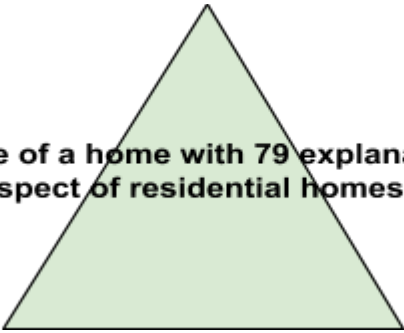



Structural Pyramid Analysis Plan



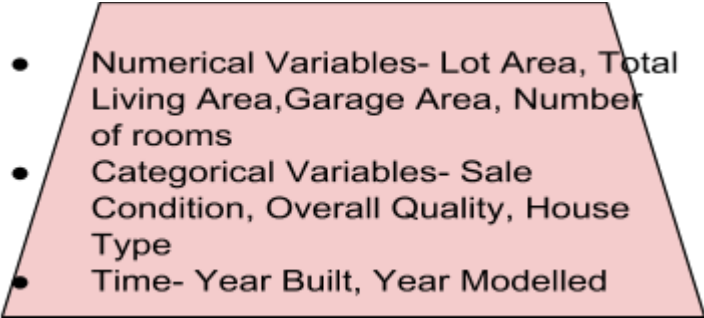
Predict the final price of a home with 79 explanatory variables describing various aspect of residential homes in Ames, Iowa

The SMART goal outlined above clearly pertains to Sale Price as a metric. What is less clear is how that parameter should be computed. In particular, the Sale Price could be computed with respect to various factors such as lot area, year built, sale condition, etc. Each of these variables has a different impact on the final sales price of a house. The best way to compute the final sales price will likely depend upon the specific situation.

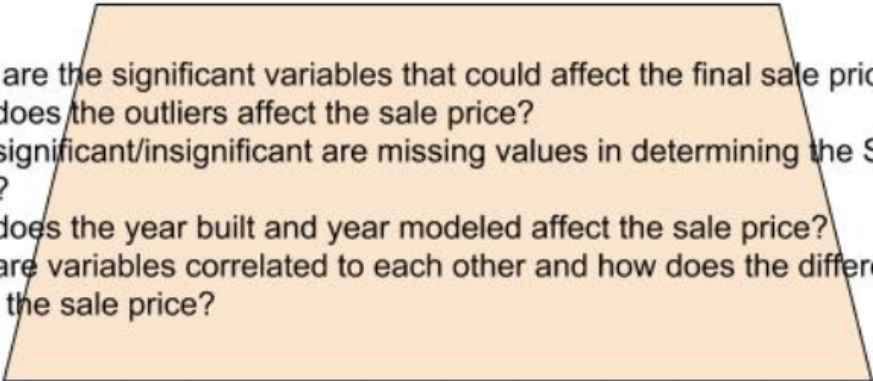


**Dependant Variable-
Sale Price**

Next Step is to analyze the independent variables categories to be considered to predict the final sale price. Below are a few variables we will be considering for our analysis. We will be applying PCA to determine the significant variables that impact the sales prices.

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- Numerical Variables- Lot Area, Total Living Area, Garage Area, Number of rooms
 - Categorical Variables- Sale Condition, Overall Quality, House Type
 - Time- Year Built, Year Modelled

The next stage involves raising specific questions about possible interactions between the types of data.

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- What are the significant variables that could affect the final sale price
 - How do outliers affect the sale price?
 - How significant/insignificant are missing values in determining the Sale Price?
 - How does the year built and year modeled affect the sale price?
 - How are variables correlated to each other and how do the differences affect the sale price?