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**Project Title:** Analysis of Potential Impact Federal Fund rate has on Mortgage Rates

An average of eight times per year the Federal Open Market Committee (FOMC) will meet to set the federal funds rate. The federal funds rate is the target interest rate set by the FOMC at which commercial banks borrow and lend their extra reserves to one another overnight**.** We are seeking to analyze housing market trends in the United States over a five-to-ten-year timespan to explore if the federal funds rate is correlated with the average mortgage rates and home prices in the United States.

**Research Questions to be answered/Outline:**

1. Does the federal fund rate impact the average home mortgage rate or the average home sales price?
   1. Graph: Bank Prime Loan Rate vs. Average Home Mortgage rate over a five-year span
   2. Graph: Bank Prime Loan Rate vs. Median Home Sale Price over a five-year span
2. How do home mortgage rates affect/impact median sale price?
   1. Graph: Average Home Mortgage rate vs. Median Home Sale Price
   2. Graph: Max/Min home mortgage rates vs. Median Home Sale Price
3. How do home mortgage rates affect/impact listing price?
   1. Graph: Average Home Mortgage rate vs. Median Listing Price
   2. Graph: Max/Min Average Home Mortgage rate vs. Median Listing Price
4. Does the mortgage interest rate correlate to days on the market?
   1. Graph: Average Home Mortgage rate vs. Days on Market
   2. Graph: Max/Min Average Home Mortgage Rate vs Days on Market
5. Does the mortgage interest rate corelate to housing inventory?
   1. Graph: Average Home Mortgage Rate vs. Houses on Market
   2. Graph: Max/Min Average Home Mortgage Rate vs Houses on Market

**Data Sets to be Used:**

1. Federal reserve Economic Data (FRED) API: <https://fred.stlouisfed.org/docs/api/fred/>:
   1. Bank Prime Loan Rate Changes over time span
   2. 30-Year Fixed Rate Mortgage Average in the United States
2. House Data – Zillow: <https://www.zillow.com/research/data/>:
   1. “Median Sale Price” on Zillow site – downloadable csv
   2. “Days to Pending” data on Zillow site- downloadable csv
   3. “For-Sale-Inventory” data on Zillow site – downloadable csv