REAL ESTATE PRICE ANALYSIS.

Group 3
Phase 4 project

Group Members

- Anthony Ngatia

- Naomi Rotich

- Jessyca Aperi

- Joy Chepchumba

Agenda

Zip Code Selection

• Zip codes were selected according to the best performing values.

Time Series Analysis

• Calculate monthly returns (ROI) from the historical mean values and build a time series model to forecast 5 years.

Recommendations

• Recommendations are issued according to forecasts derived from the predictive models.

Business Understanding

Real estate investment is a lucrative and dynamic industry that requires careful analysis and decision-making. The fictional real estate investment firm is seeking guidance on identifying the top 5 zip codes for investment opportunities. To address this question, historical data from Zillow Research is utilized.
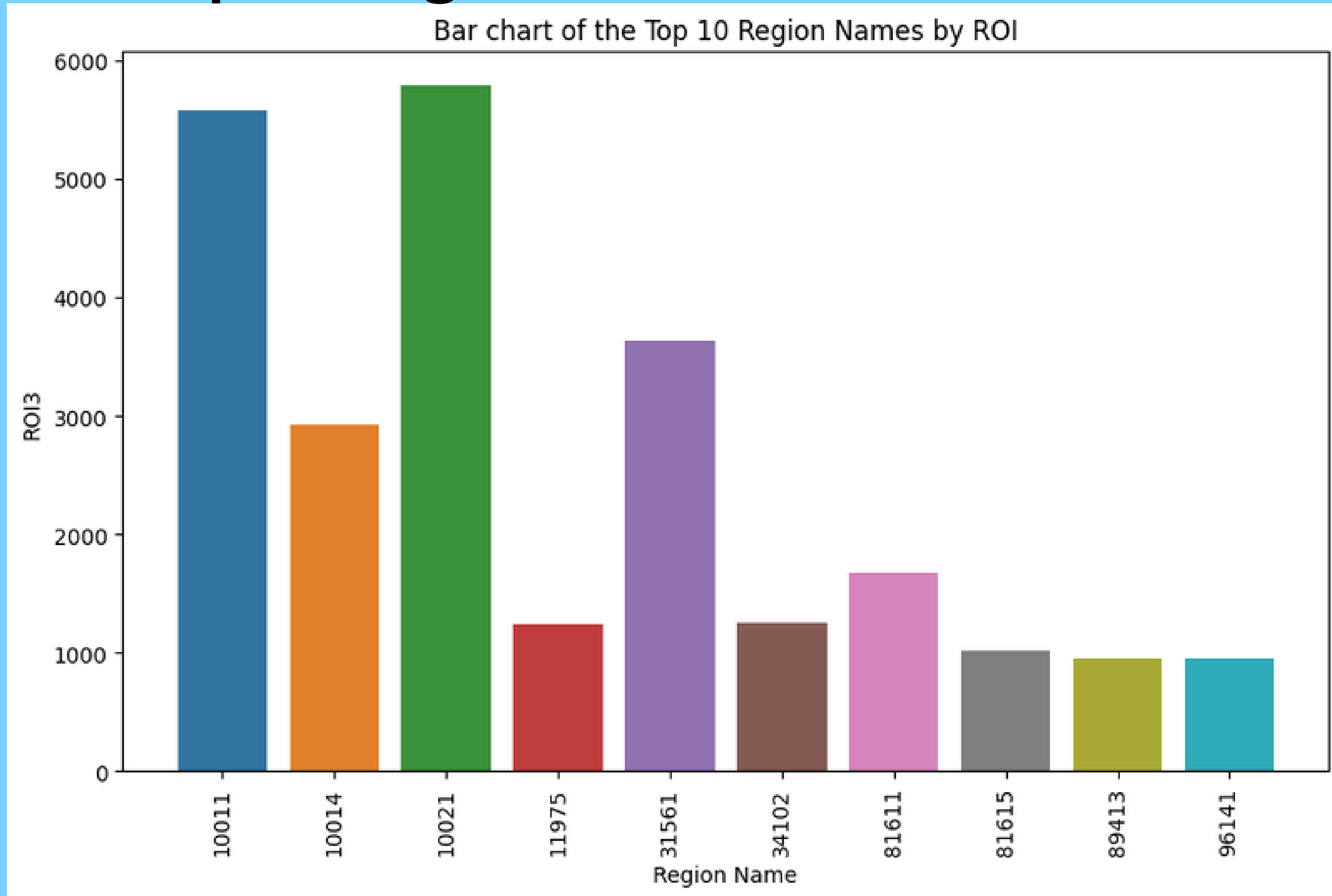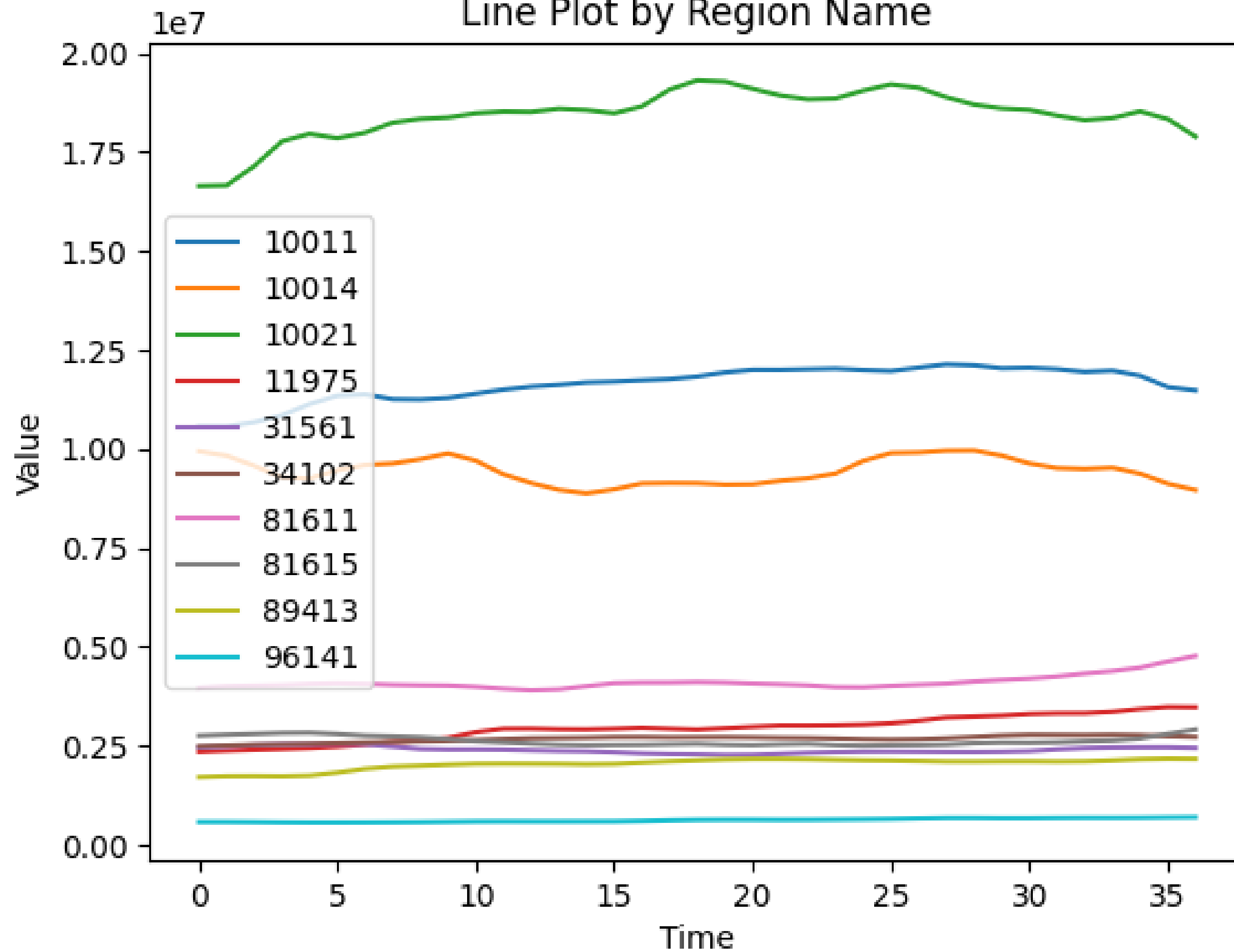
Main Objectives.

- Analyze Historical Data.
- Identify Promising Zip Codes based on the returns of the investment.
- Check for trends in the data.
- Make models to predict the price based on this top 5 zip codes.
- Give relevant recommendations to a real estate company.

Our Top 10 Regions

Bar chart of the Top 10 Region Names by ROI

Line Plot by Region Name

According to our analysis , the top five regions were:

```
Zipcode : 10021
Location: New York, NY

Zipcode : 10011
Location: New York, NY

Zipcode : 31561
Location: Sea Island, GA

Zipcode : 10014
Location: New York, NY

Zipcode : 81611
Location: Aspen, CO

Zipcode : 34102
Location: Naples, FL

Zipcode : 11975
Location: Wainscott, NY

Zipcode : 81615
Location: Snowmass Village, CO
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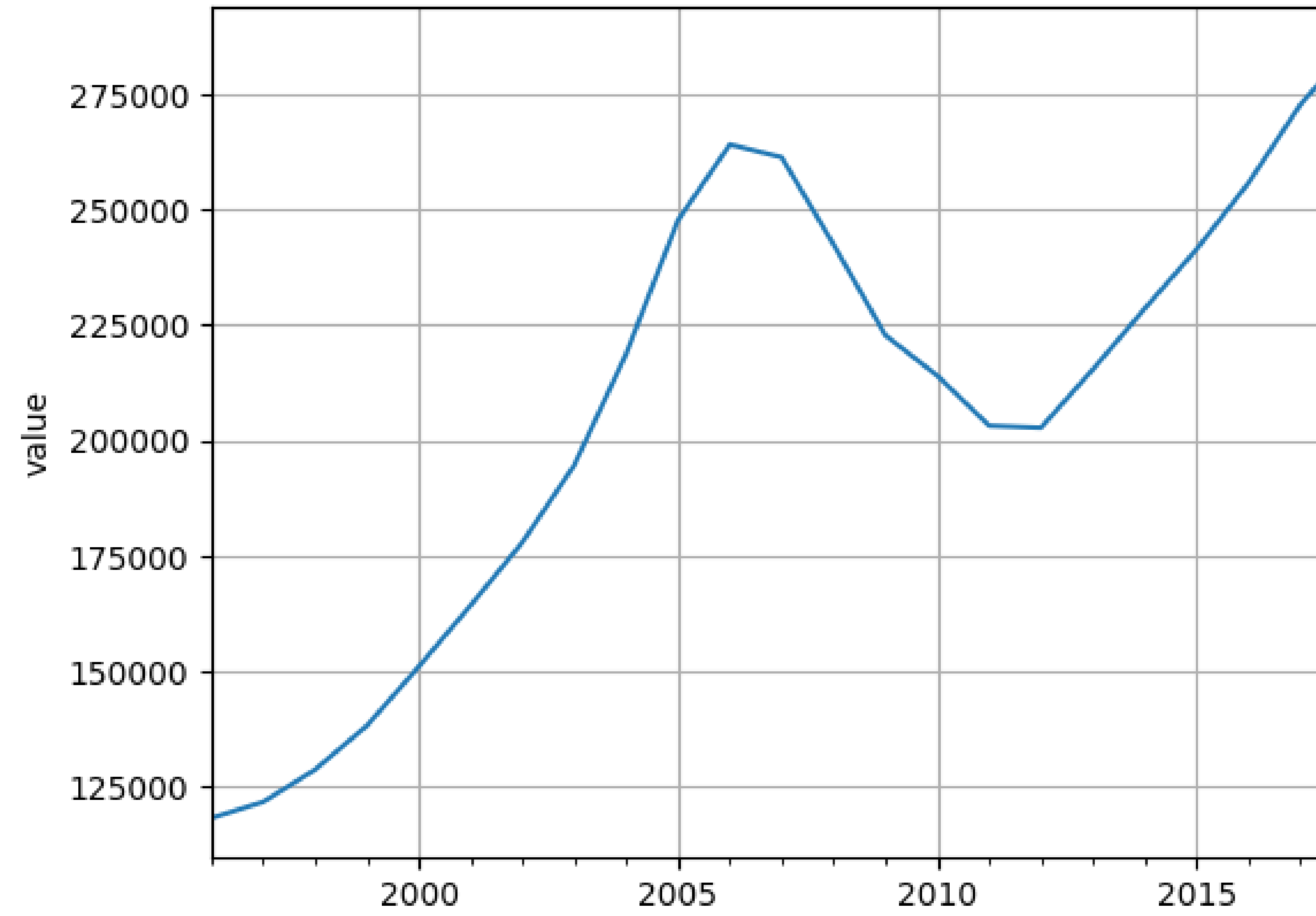
From our analysis , we found out that there was an upward trend from the year 1960 to around 2007 where the sales values started dropping and then had an upward trend again from the year 2013.The fall in in the curve was due the deep recursion between 2007 and 2009 and it took time before the market to recover .
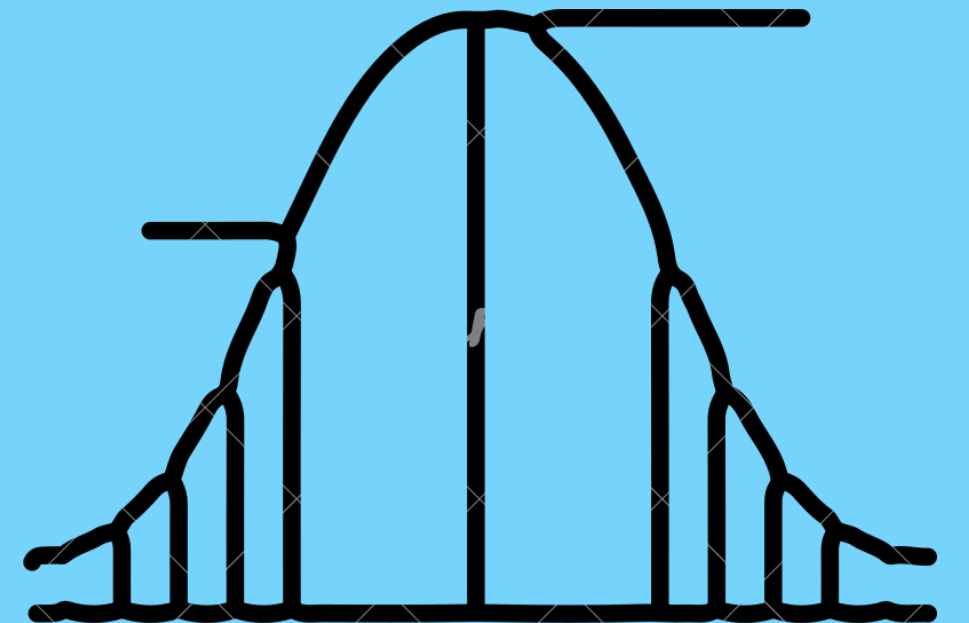
Average house values since 1996

Modelling.

We carried out tests on various models and came up with our best model that had the least error possible which was a 1.94 error . This model has a good prediction capacity and in the next slide is a graph visualising the predicted values and the actual values, where you can see that they are not that far apart.

Actual Test Data vs. Predictions
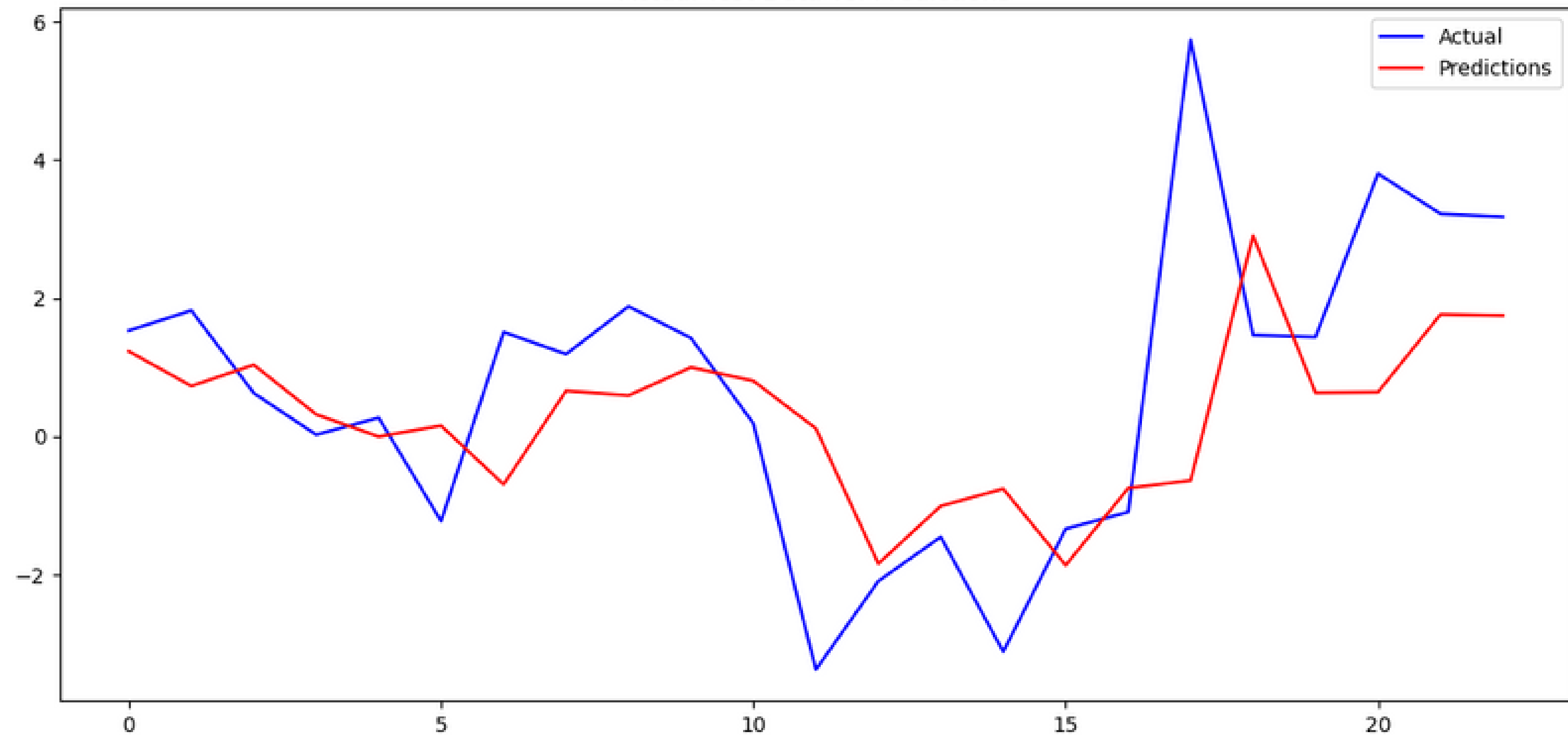
Findings

- We found out that from the year 2007 to around the year 2013 , there was a drop in the sales value of the houses.

- From our analysis, we discovered that from the upwards trend in the value of houses for sale .

- We found out the following regions as the top five regions :
1. *10021 : New York*
2. *10011 New York*
3. *31561 Sea Island*
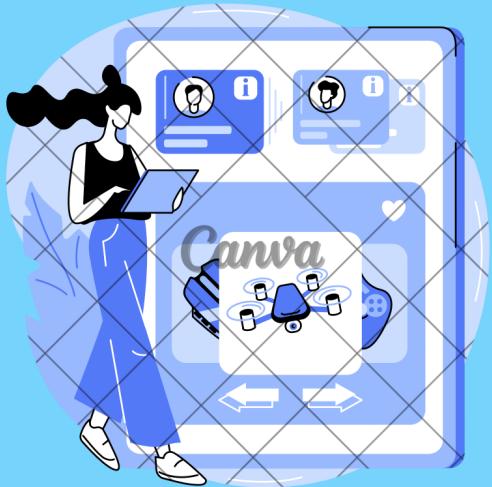4. *10014 New York*
5. *81611 Aspen*

Recommendations.

We would recommend investment in the following regions :

- 81611 - Location: Aspen, CO

- 10021 - Location: New York, NY

- 34102 - Location: Naples, FL

This is because these regions have a positive returns of investments unlike the other regions.

• Calculate monthly returns (ROI) from the historical mean values and build a time series model to forecast 5 years.

RECOMMEND

THANK YOU