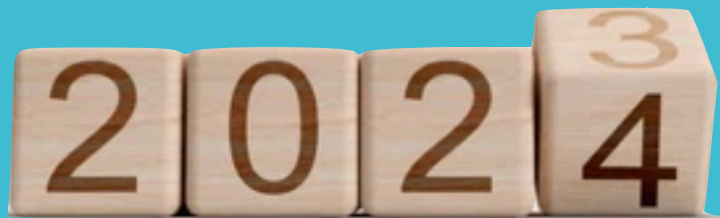


Has the COVID-19
pandemic
significantly
impacted the
housing market in
Canada?



Research focus...

Has the COVID-19 pandemic significantly impacted the housing market in Canada? Which Provinces in Canada have been affected the most?

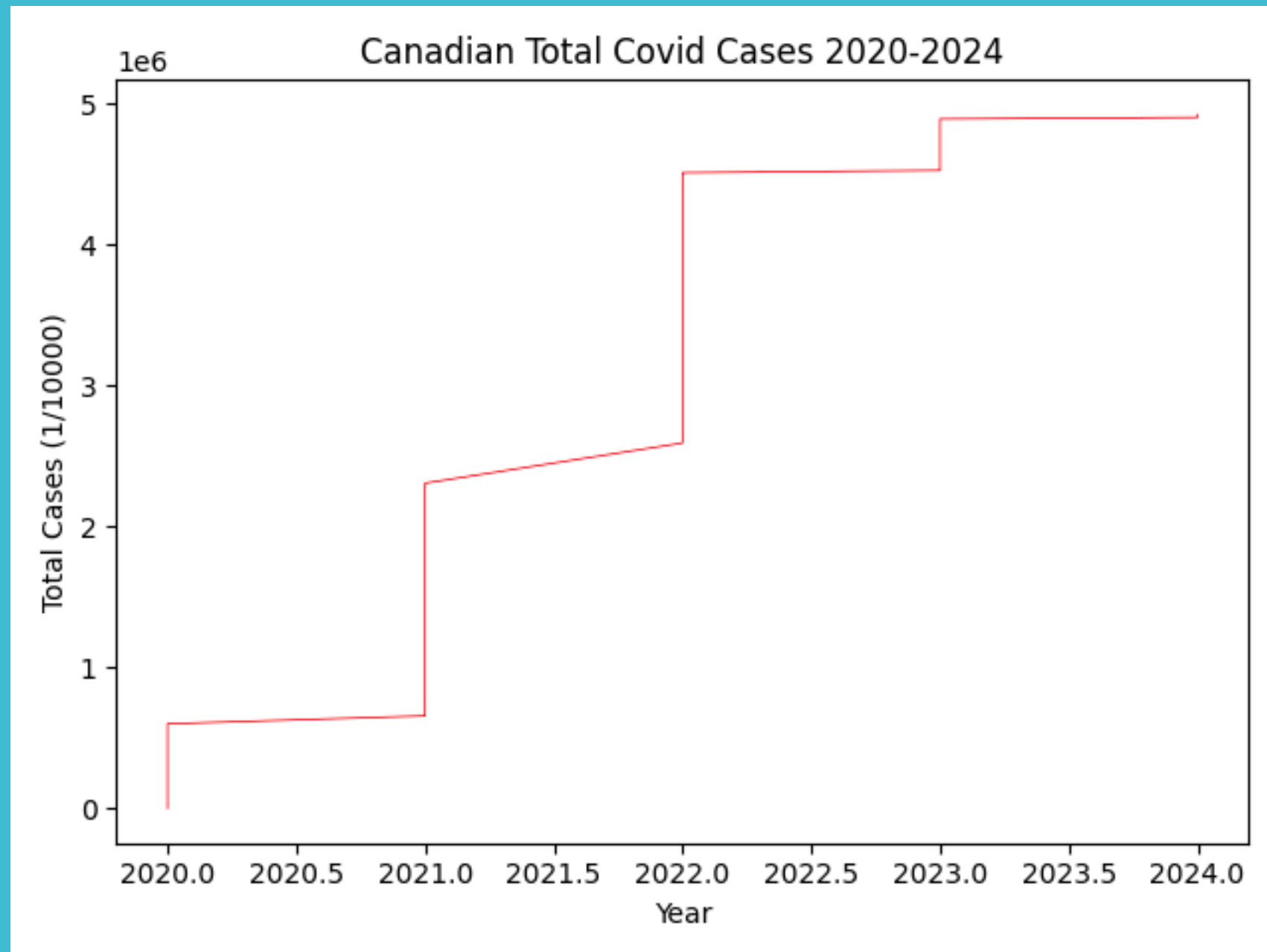


Table of contents...

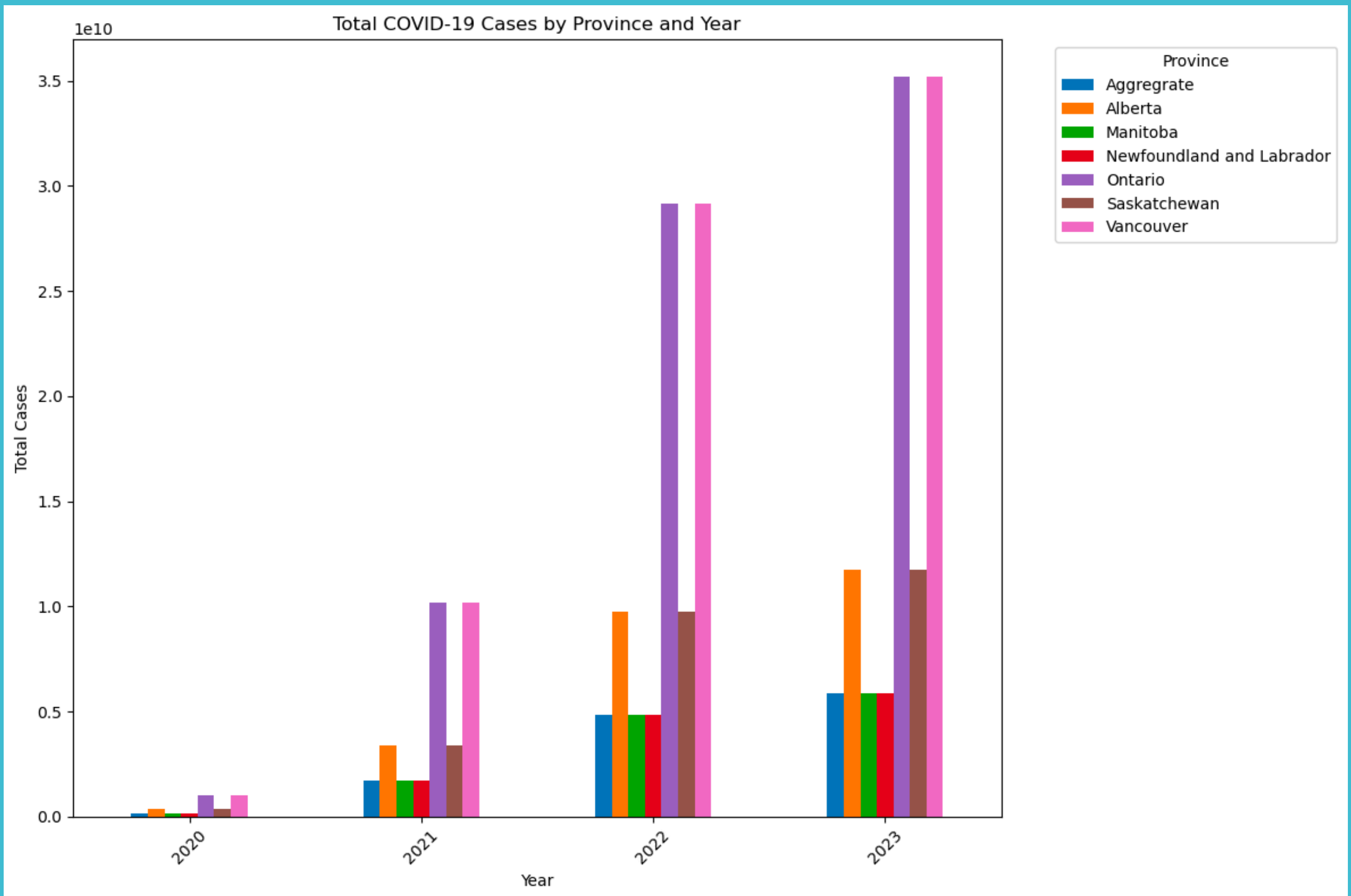
- Data Cleaning and formatting
- Analysis
 - Canadian total COVID-19 cases per year and its affect on mortgage
 - Canadian total COVID-19 cases per year and its affect on House prices
 - Hypothesis and Findings of paired T-Test
 - Realestate prices from 2016 to 2023 and averages
 - Overall Analysis
- Conclusion



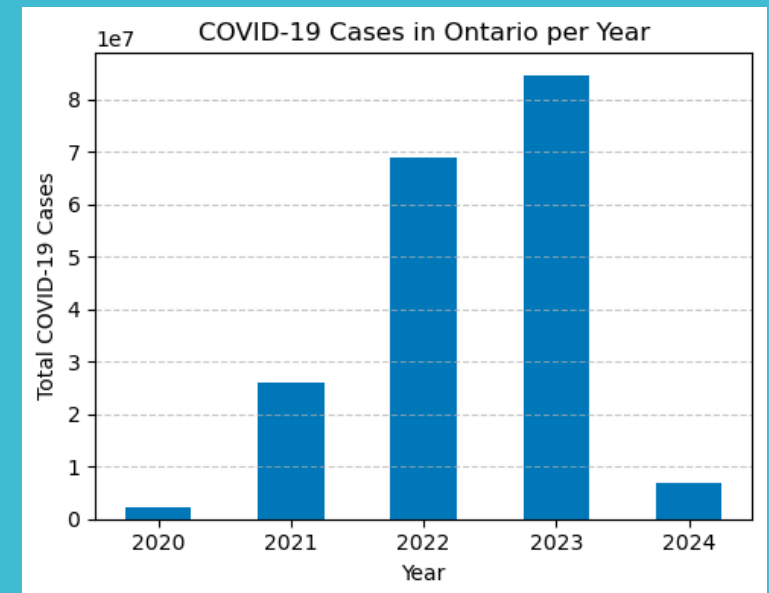
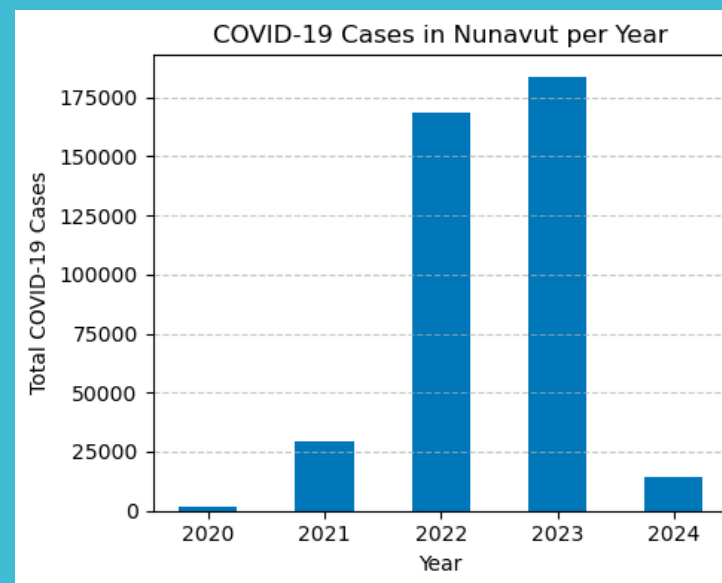
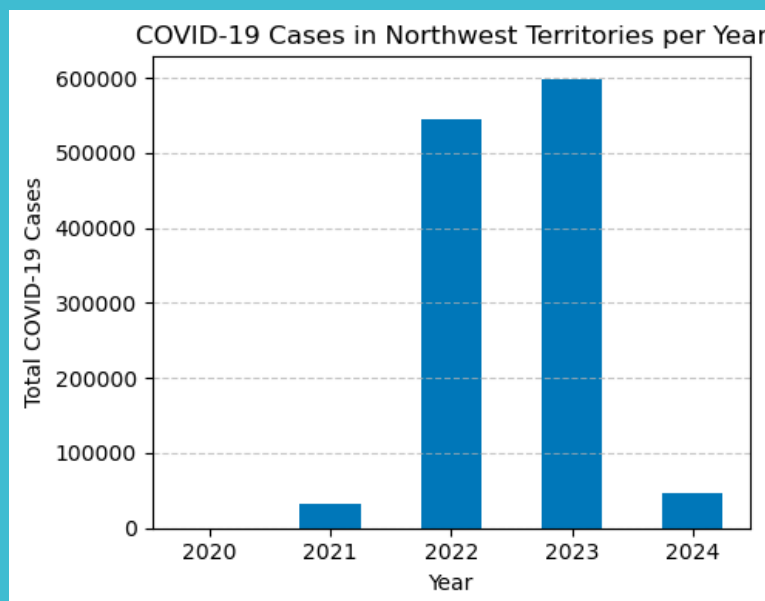
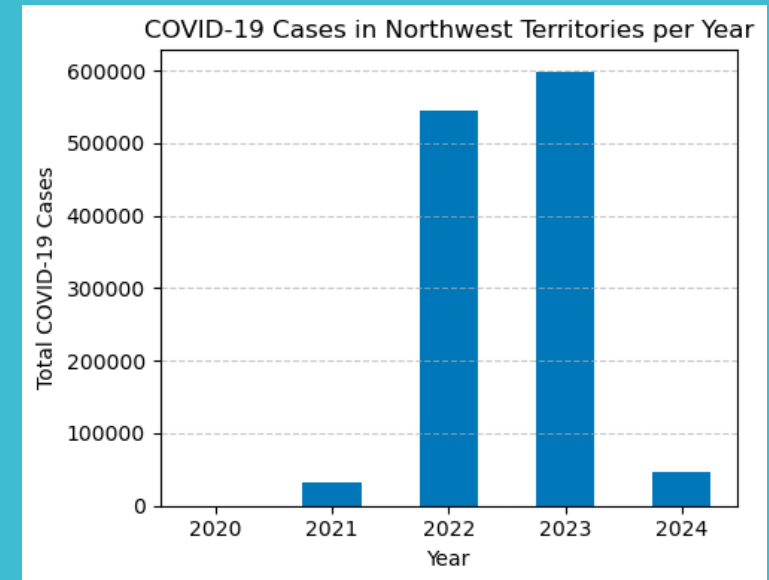
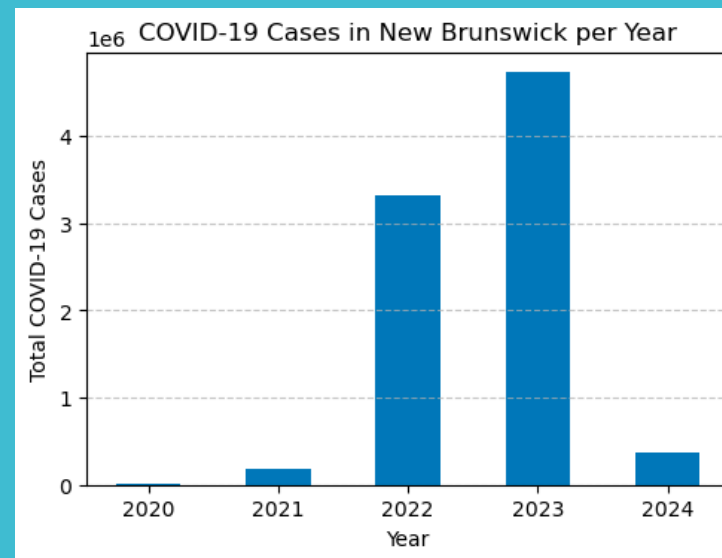
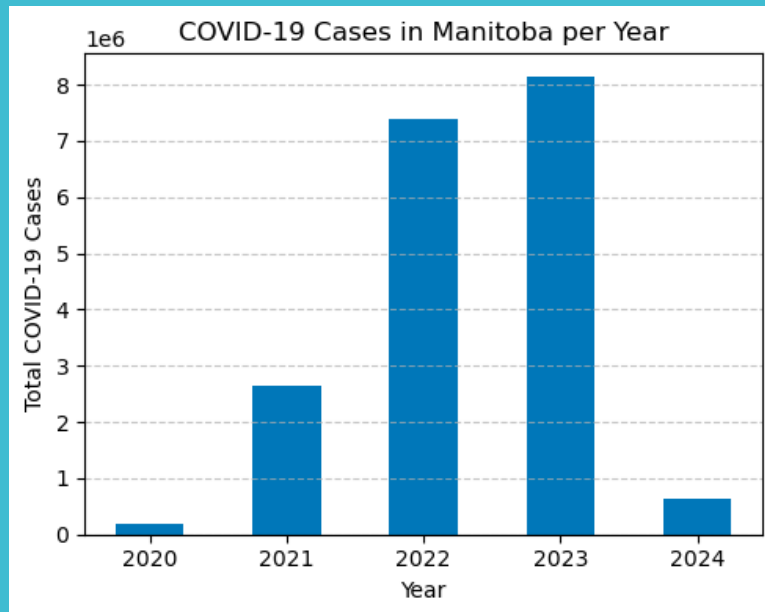
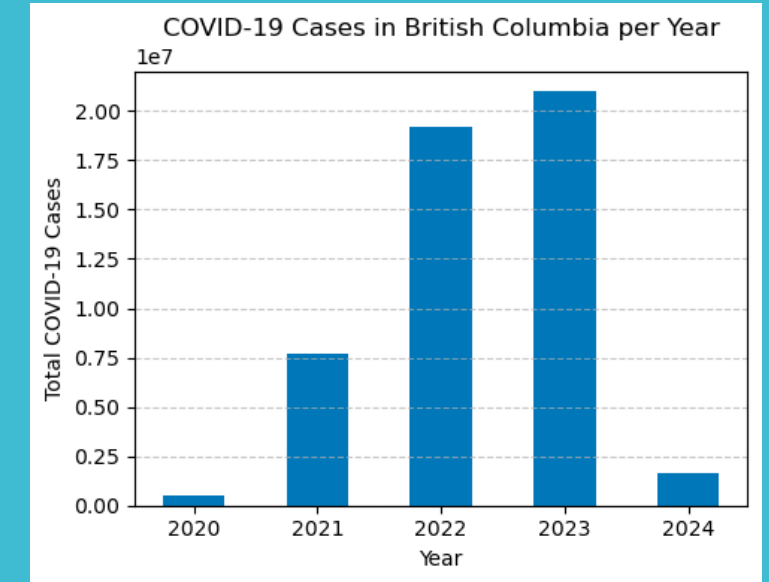
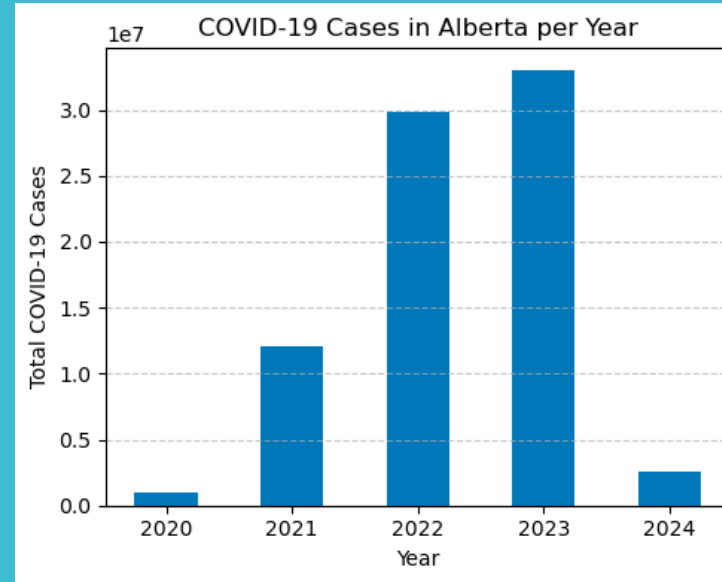
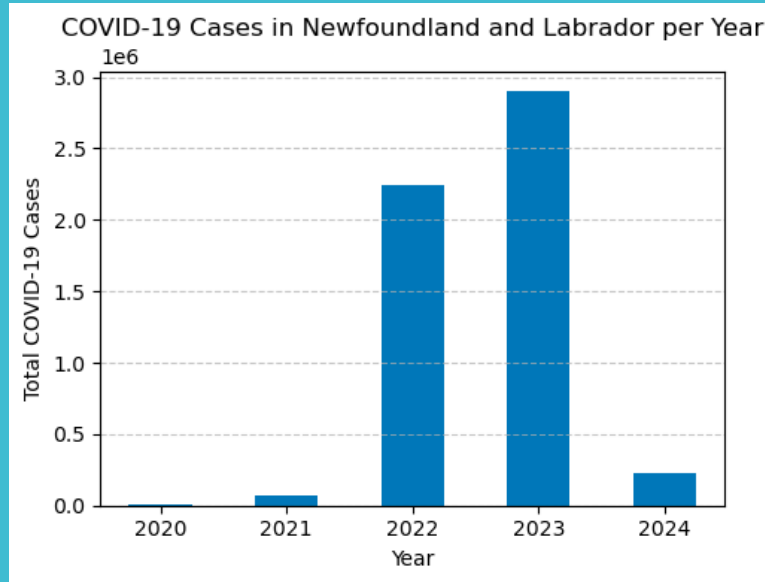
Canadian total COVID-19 cases per year (1/10000 reported cases)



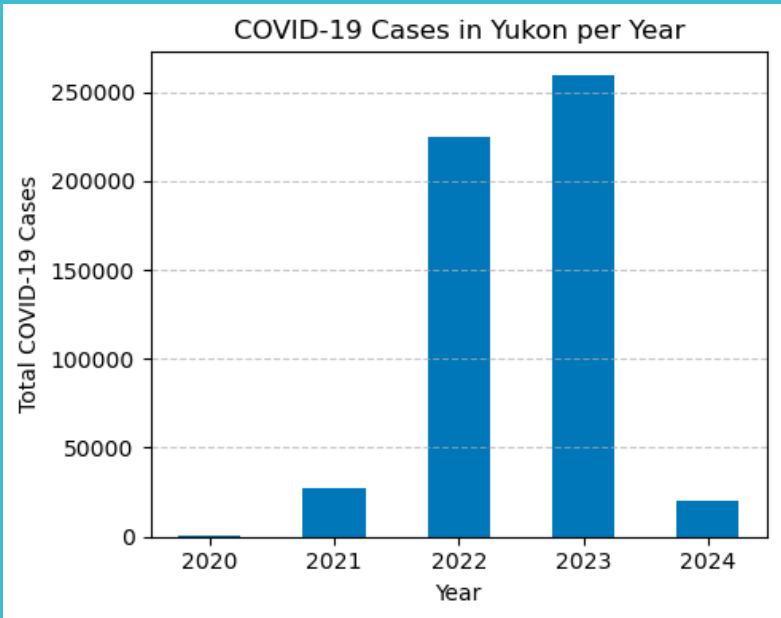
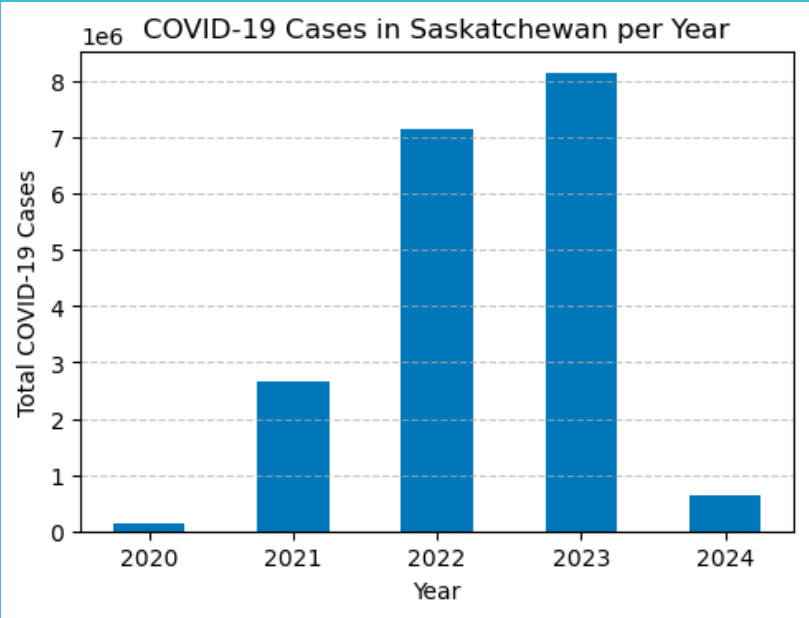
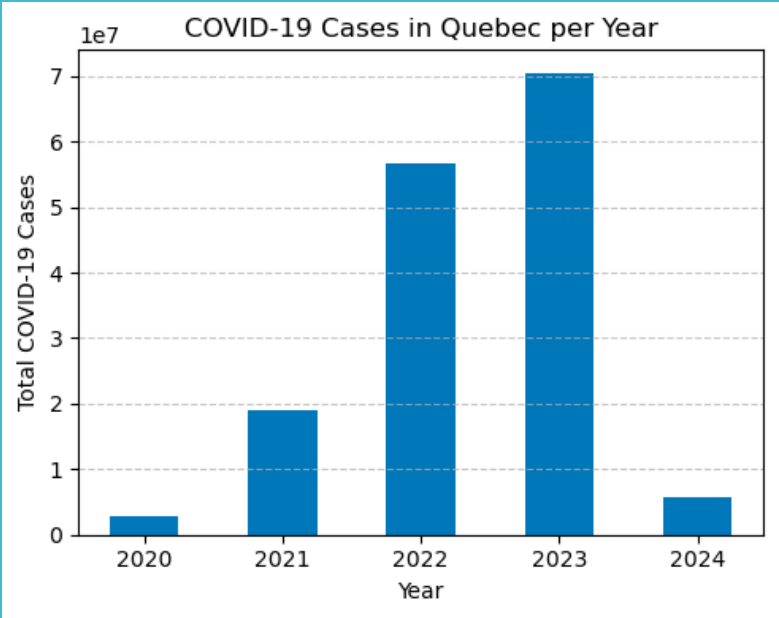
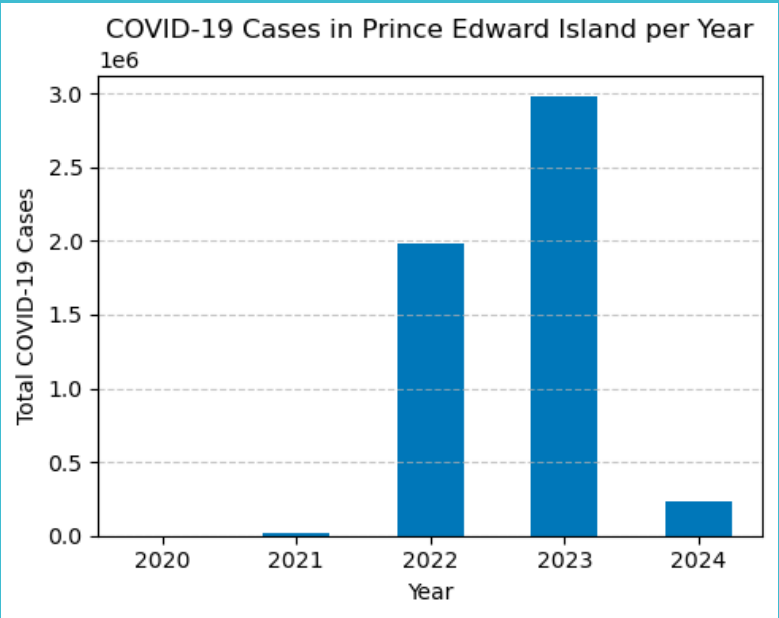
Canadian total COVID-19 cases by Province and year



COVID-19 cases in Canadian provinces from 2020 -2024



COVID-19 cases in Canadian provinces from 2020 -2024



List of top 5 and bottom 5 provinces based on the number of COVID-19 cases from 2020-2024

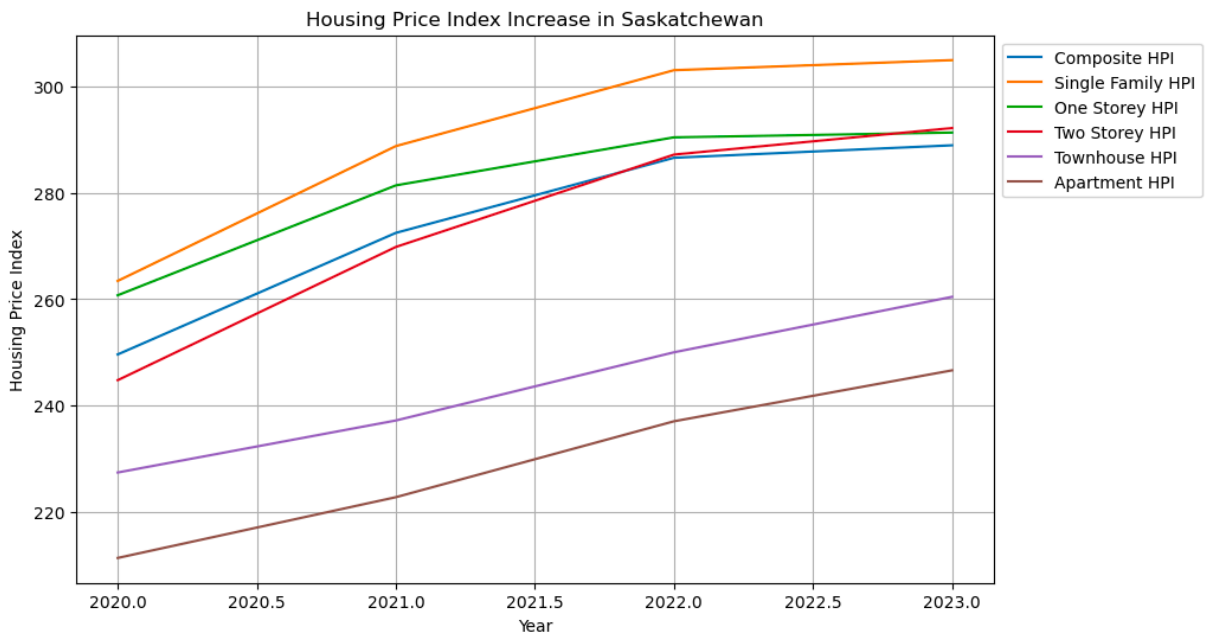
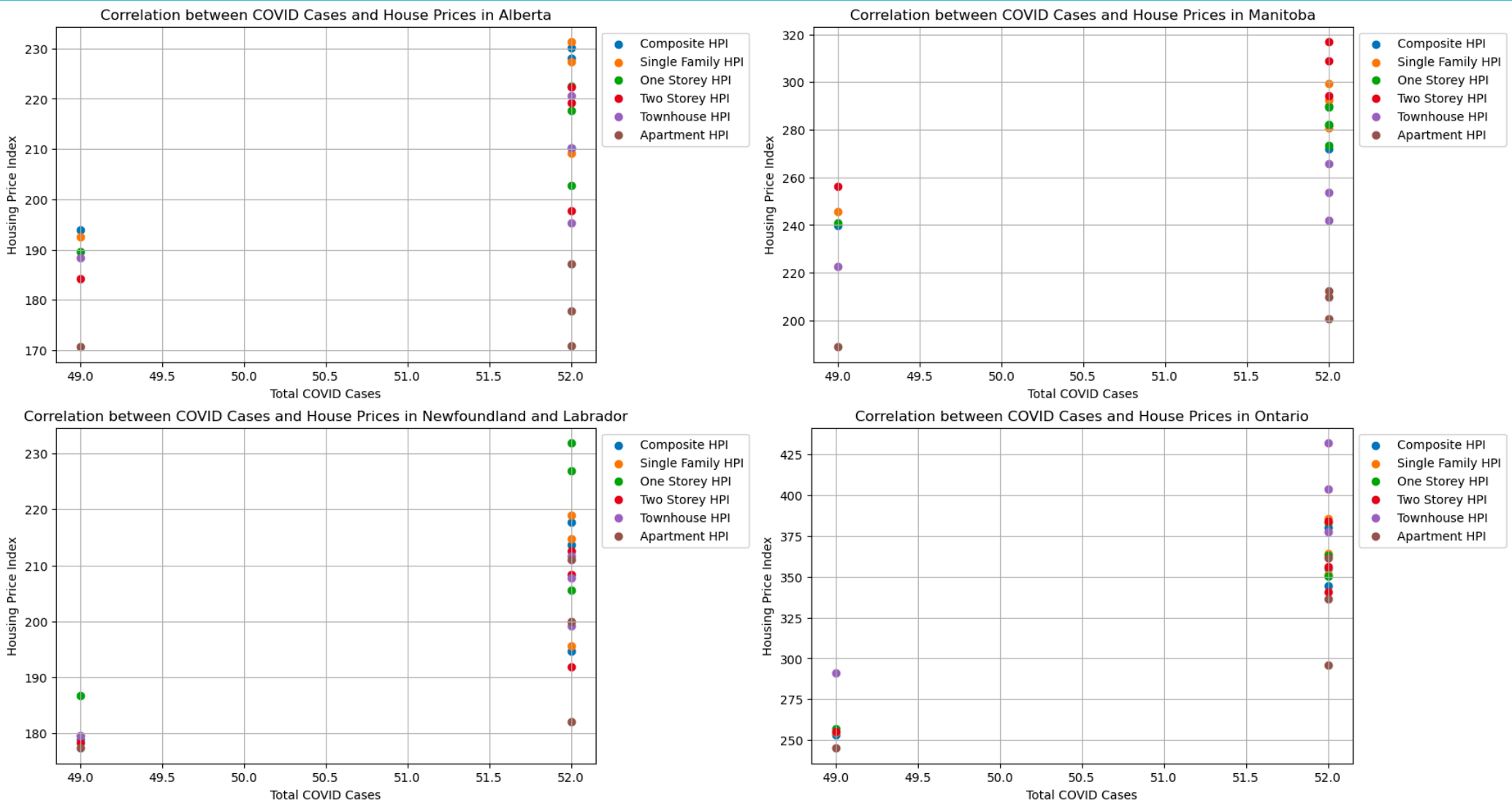
| Province | Total Cases |
|------------------|-------------|
| Ontario | 188493950 |
| Quebec | 154999135 |
| Alberta | 78551765 |
| British Columbia | 50000442 |
| Manitoba | 50000442 |

Top 5 Provinces affected by COVID-19

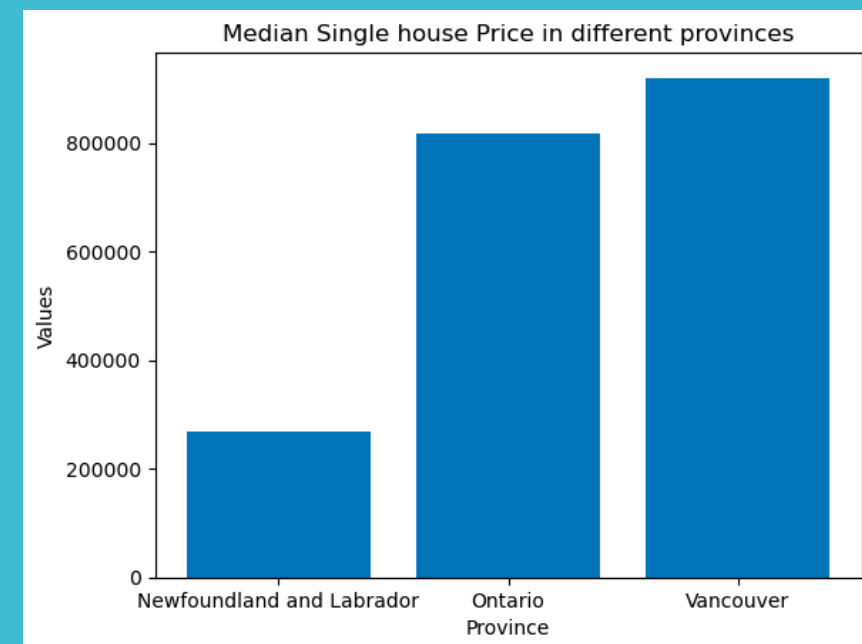
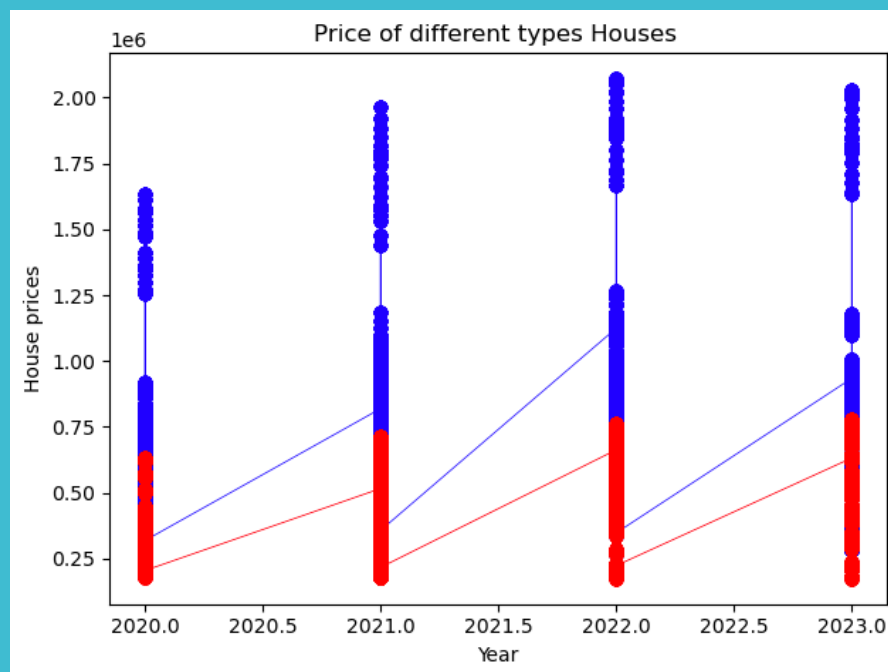
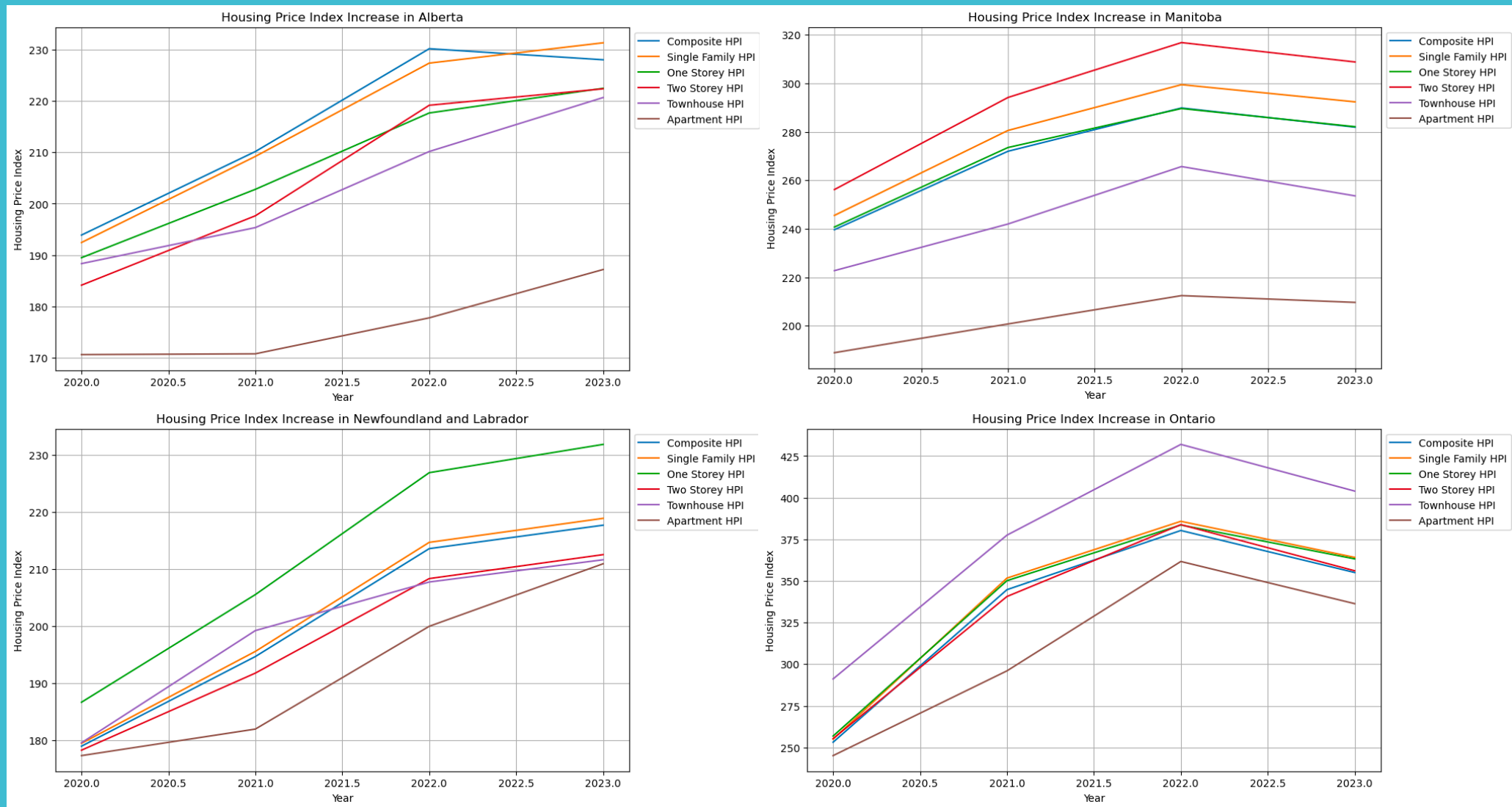
| Province | Total Cases |
|---------------------------|-------------|
| Nunavut | 397217 |
| Yukon | 532563 |
| Northwest Territories | 1221625 |
| Prince Edward Island | 5210457 |
| Newfoundland and Labrador | 5455730 |

Bottom 5 Provinces affected by COVID-19

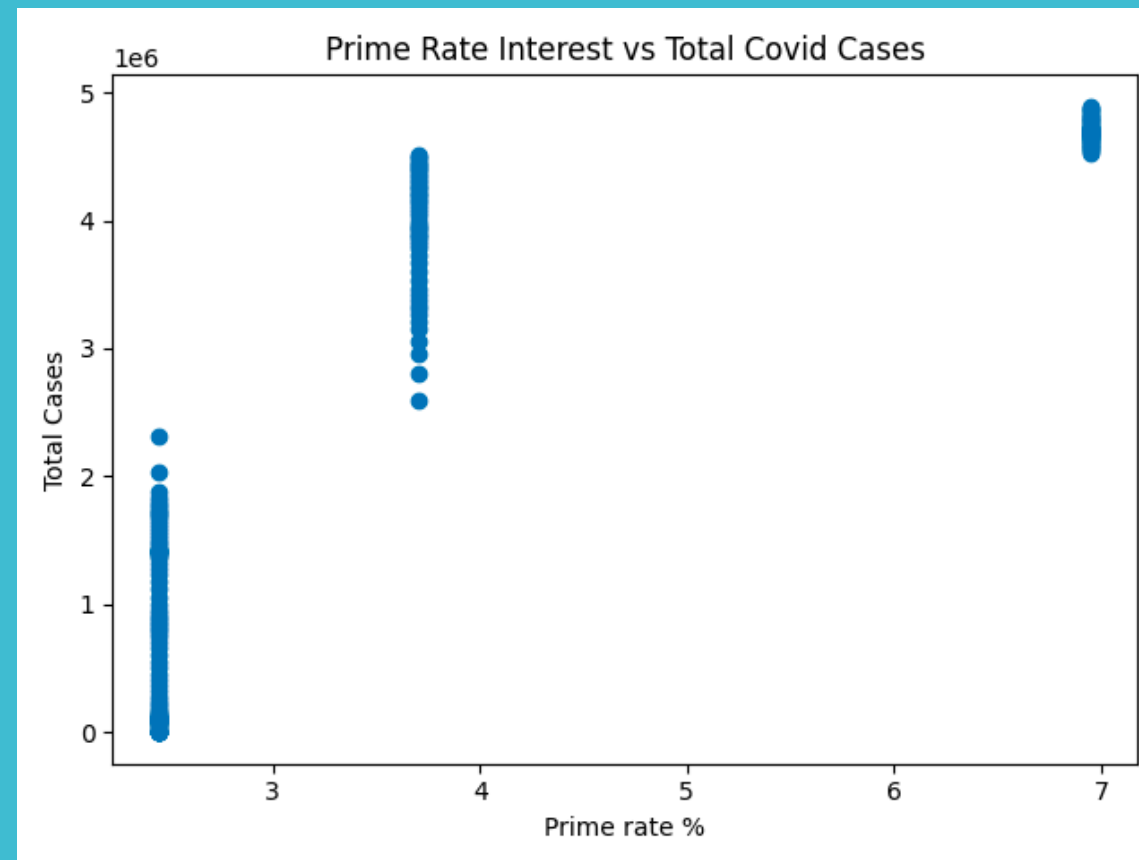
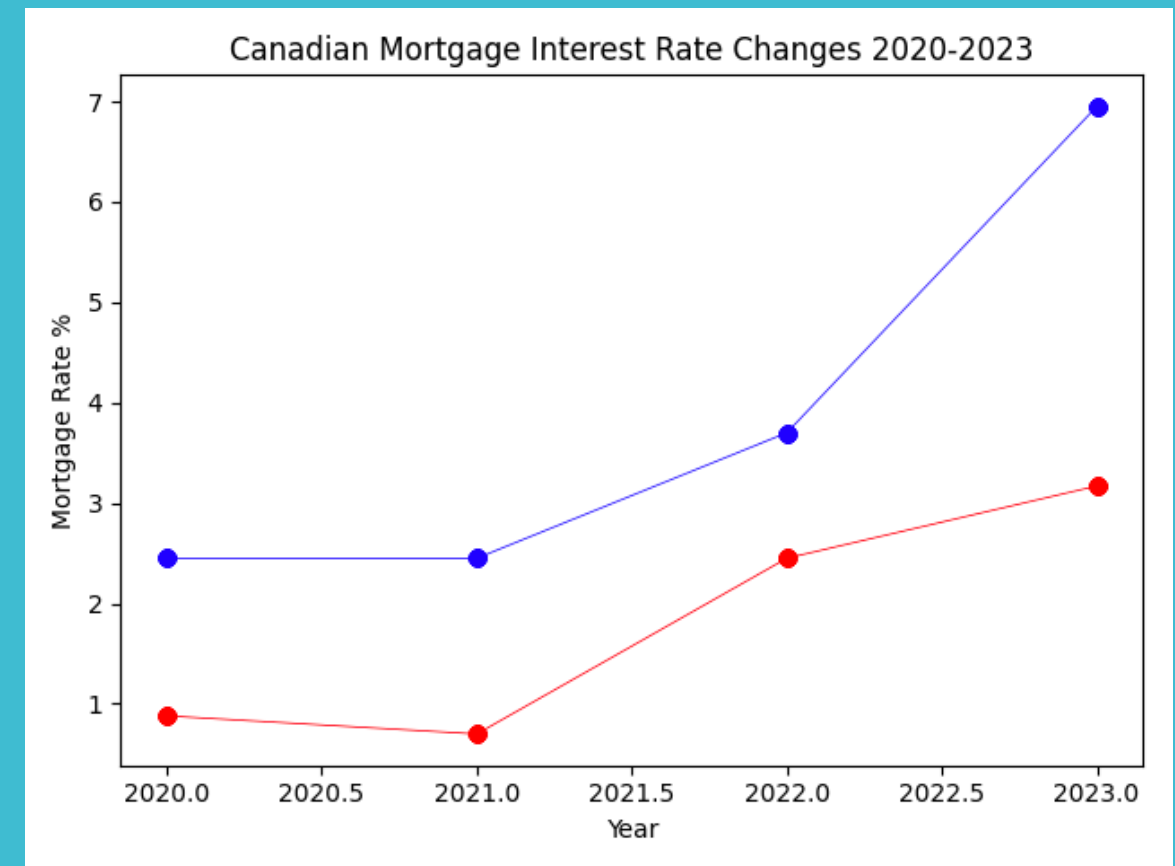
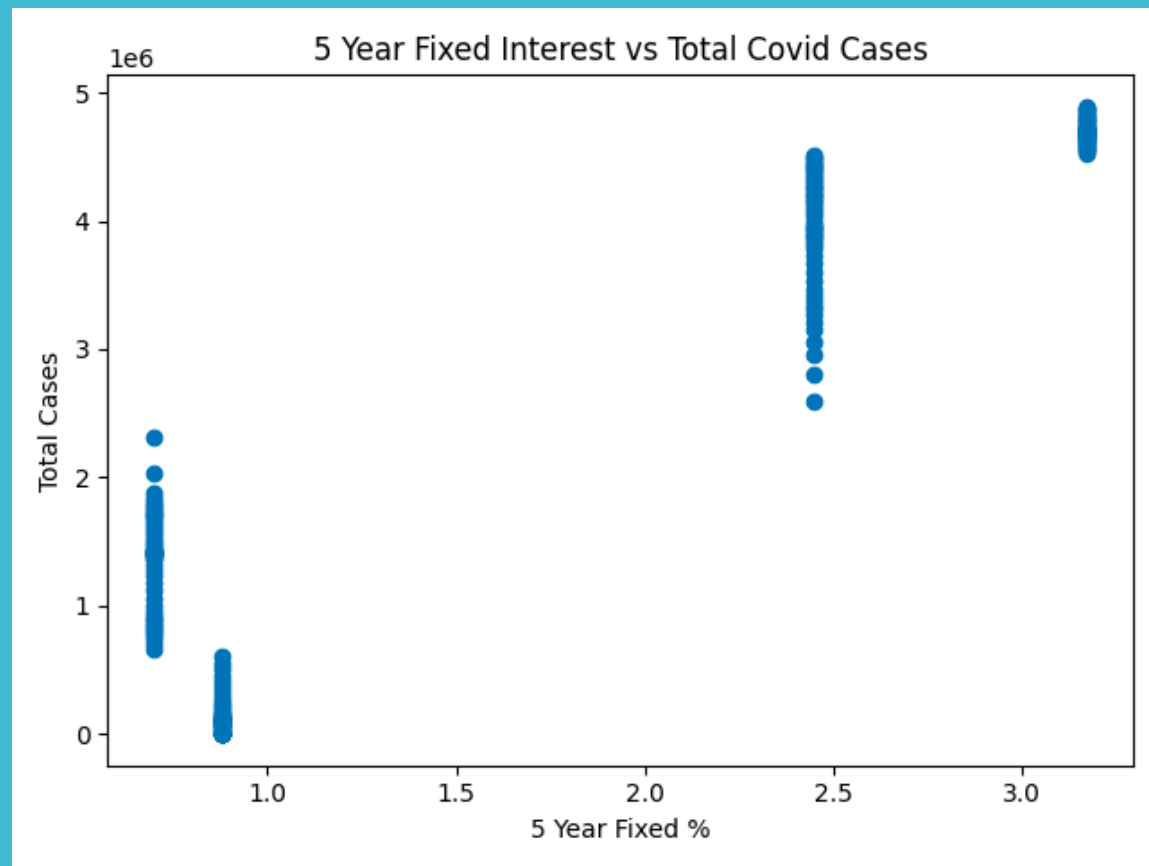
Correlation between COVID Cases and House Prices in provinces



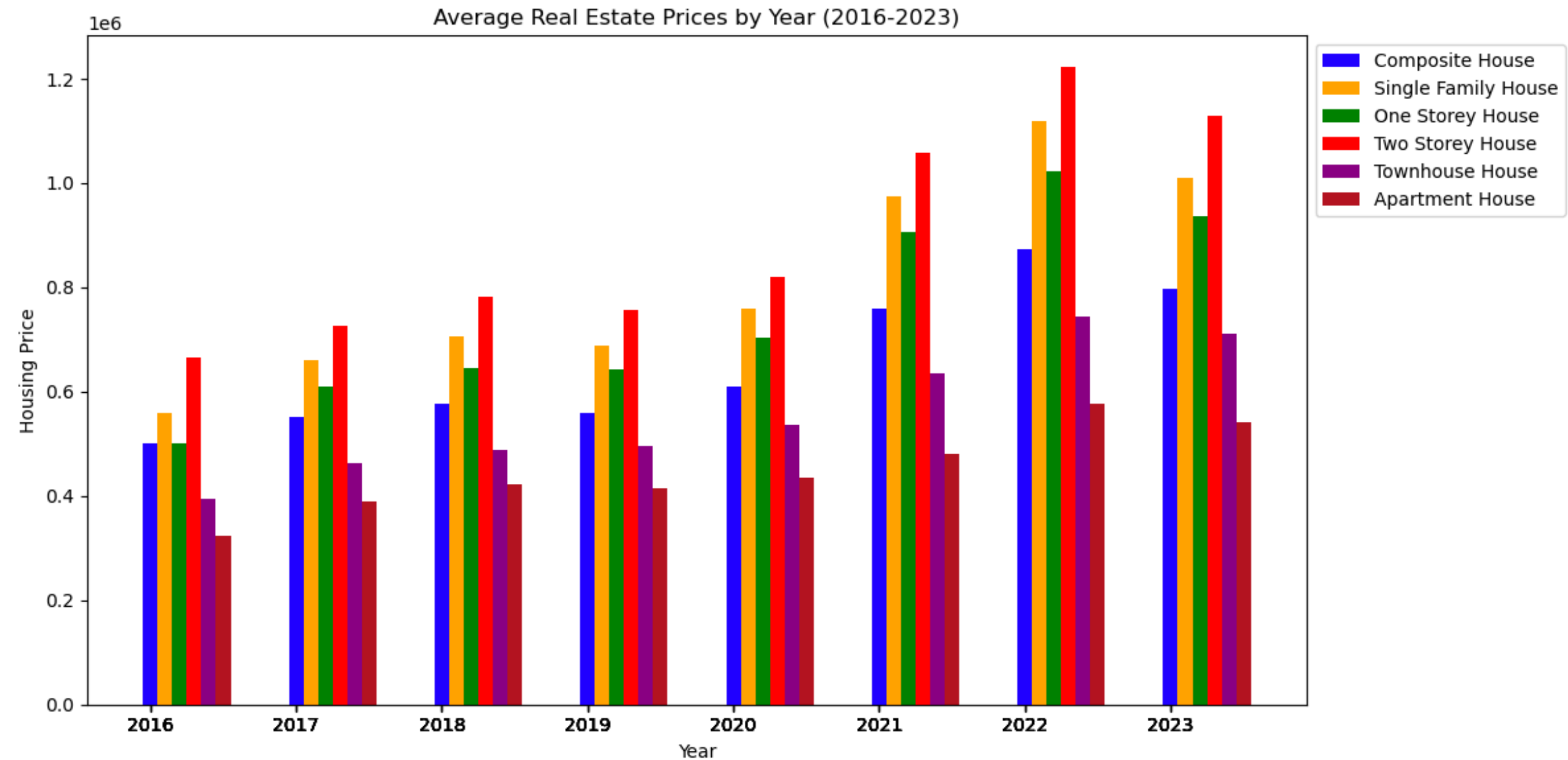
Correlation between COVID Cases and House Prices in provinces



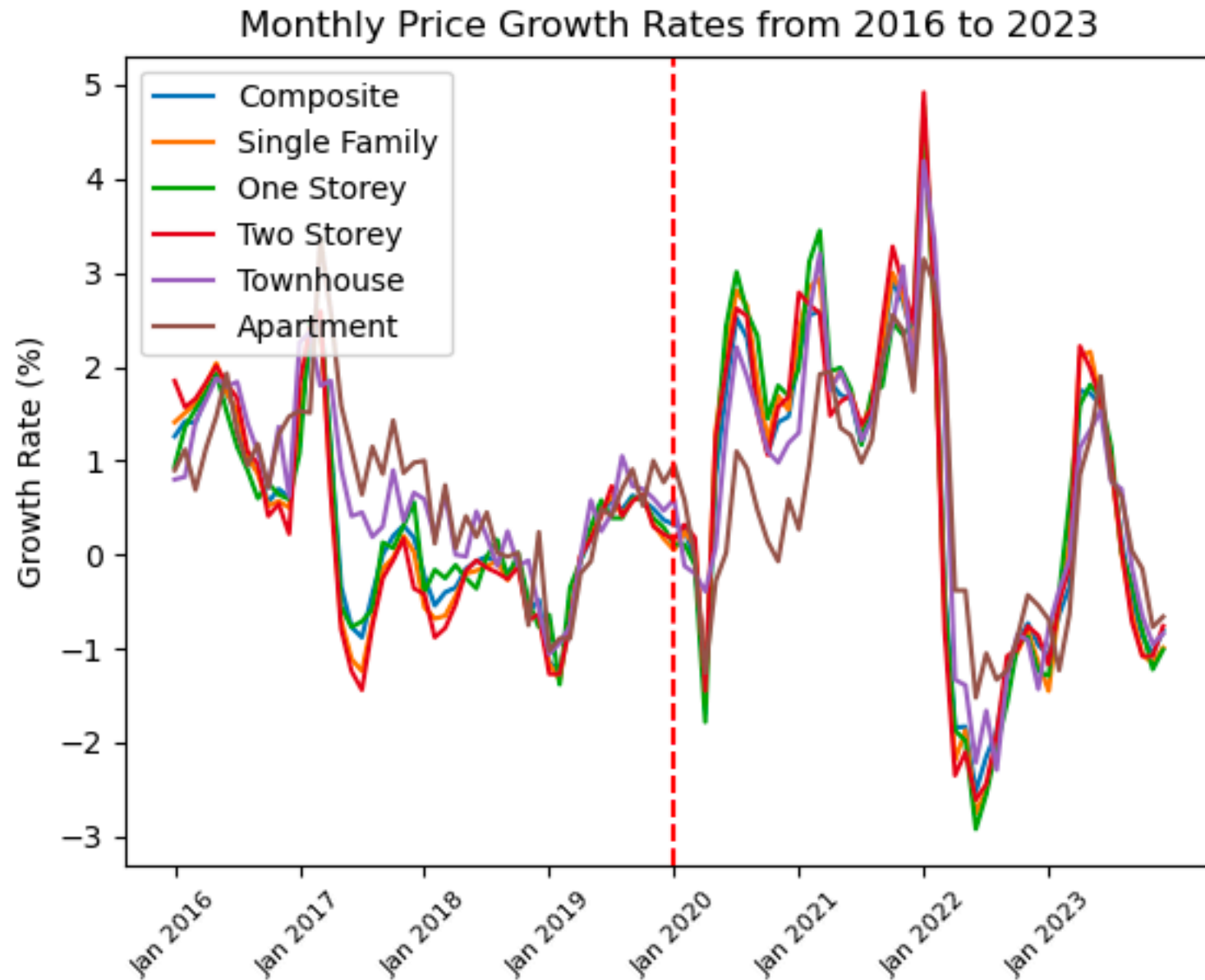
COVID-19 and its affect on Mortgage Rate (interest)



COVID-19 and its affect on House prices



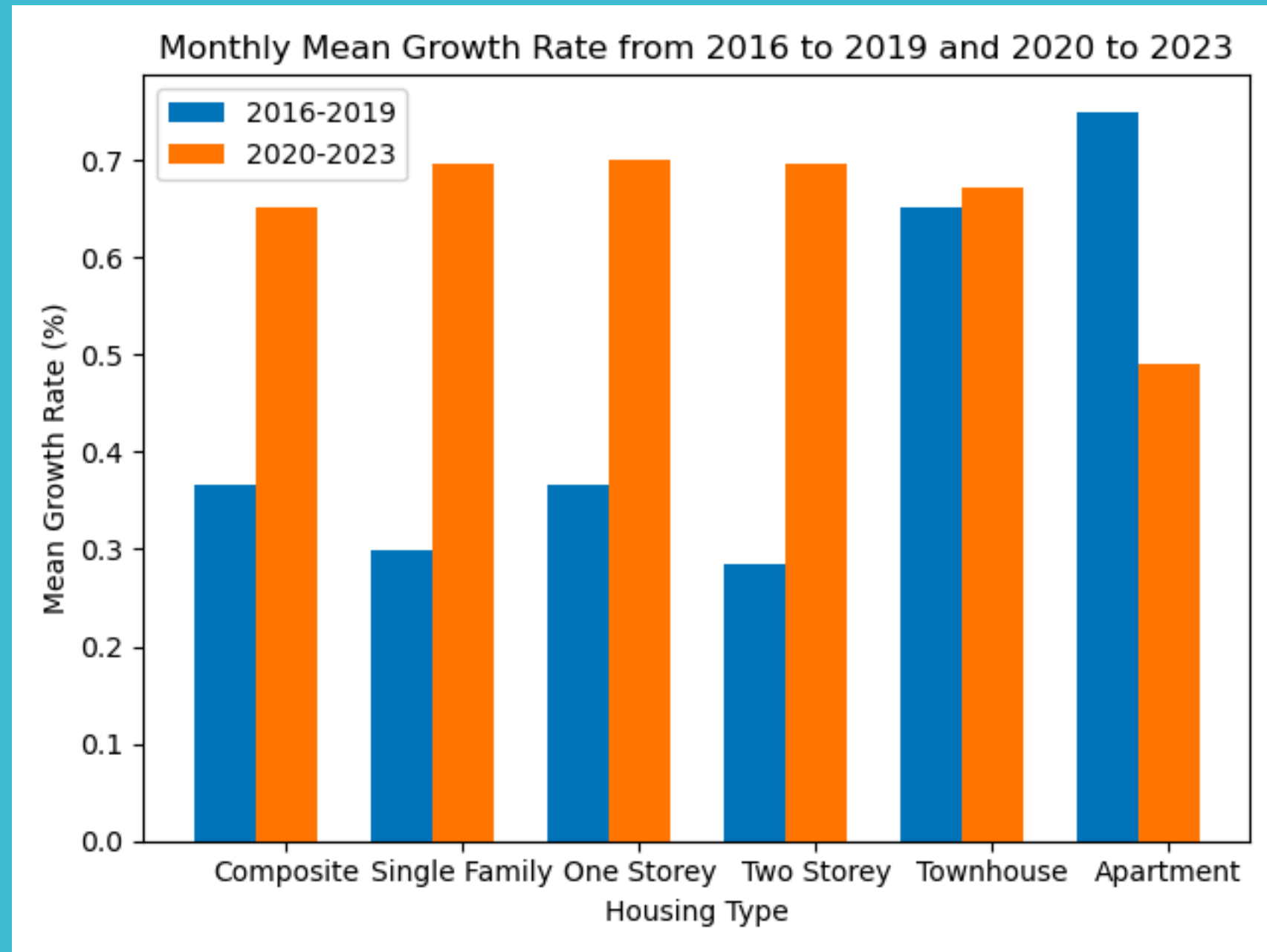
COVID-19 and its affect on House prices



- How were real estate prices effected by the emergence of Covid-19 in early 2020?

- Was there a significant change in the price growth rates of these real estate categories?

COVID-19 and its affect on House prices



The composite, single family, one storey and two storey indicate the potential for a statistically significant difference

Hypothesis and Findings of the Paired T-Test

Null Hypothesis: There is no statistically significant difference between the mean growth rate of real estate prices before and after January 2020 in the following categories: single family, one storey, two storey, townhouse and apartment.

Alternative Hypothesis: There is a statistically significant difference between the mean growth rate of real estate prices before and after January 2020 in the following categories: single family, one storey, two storey, townhouse and apartment.

Method: paired t-test

| | Composite | Single Family | One Storey | Two Storey | Townhouse | Apartment |
|-------------|-----------|---------------|------------|------------|-----------|-----------|
| t-statistic | 1.198402 | 1.517832 | 1.326231 | 1.532072 | 0.096452 | -1.590426 |
| p-value | 0.236769 | 0.135755 | 0.191172 | 0.132209 | 0.923572 | 0.118444 |

Conclusion: Do not reject the null hypothesis. The test indicates that there was no statistically significant difference in the mean price growth rates after the emergence of Covid-19 in early 2020.

Reference

- <https://www.crea.ca/housing-market-stats/mls-home-price-index/hpi-tool/>

- [https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/?](https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/?lookupPage=lookup_canadian_interest.php&startRange=2014-02-08&rangeType=dates&dFrom=2020-01-01&dTo=2024-02-08&rangeValue=1&rangeWeeklyValue=1&rangeMonthlyValue=1&ByDate_frequency=daily&submit_button=Submit)

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Questions?

