**Project 1: GTA Real Estate market**

**Group Members**

Marina Ercoli (Pulling Data)

[Jorge Arriola Villafuerte](https://app.slack.com/team/U01AD9V9G77) (Pulling and cleansing the data)

Ulisses Pinto (Math/statistics)

Monica Lin (Building Graphs)

Emilia Lubanska – Oledzka (Visualisation)

**Proposal**

Our project is going to analyse the impact of Covid19 on the real estate market comparing 2019 and 2020 data from GTA. We will exam correlations, changes on interest rates as well as prices fluctuations sorting by types of houses/properties.

**Dataframes so far:**

Ulisses - Number of houses sold and average price per month

Marina - API with Covid cases per month

Monica - Houses under construction per quarter

Emilia - Interest rates per month

Jorge - Covid cases csv - Helping Marina with the Json

**Graphs:**

Bar graph - Number of covid cases / number of houses sold

Line graph - Fluctuation of the house price (1 for 2019 and 1 for 2020) / fluctuation of the number of covid cases (we are going to compare both graphs)

Pie chart - Number of houses sold in 2019 and number of houses sold in 2020

**Statistics**

* Correlation between the covid cases with the house price
* Correlation between the covid cases with the interest rates
* Correlation between the covid cases with the houses soldScatter plots for covid cases vs houses sold with linear regression
* scatter plots for covid cases vs house price and linear regression
* Scatter plots for covid cases vs interest rates and linear regression

**Sample Questions / Queries**

1. What’s the impact of Covid19 on the real estate market?
2. The impact on interest rates
3. The correlation between the Covid19 and the house sales volume
4. Types of the houses being sold (condo, detached etc.)
5. Price fluctuation during Covid19

**Data Sources:**

Absorved & unabsorved houses in Canada  
<https://open.canada.ca/data/en/dataset/1d329dea-af4a-4835-b524-06e329b4ff72>

Houses under construction  
<https://open.canada.ca/data/en/dataset/1995a476-68fd-4fe2-973f-2dd47f7f6c2c>

Covid – ON  
<https://data.ontario.ca/dataset/confirmed-positive-cases-of-covid-19-in-ontario/resource/455fd63b-603d-4608-8216-7d8647f43350>

Average, Median and Price Percentiles for Unabsorbed Homeowner and Condominium Units (Provinces) – Ontario

<https://www.quandl.com/data/CMHC-Canadian-Mortgage-and-Housing-Corporation/documentation?anchor=about>

Interest rates:

https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/