**Data Analytics Research Project**

**Have Covid-19 cases in each Victorian suburb changed their popularity for homeowners in Victoria?**

Brainstorm - draft 2 - Thursday 1st October

1. **Research aim and questions**

***Aim and main question***

The aim of this project is to determine whether the number of Covid-19 cases in each Victorian suburb changed their popularity among homeowners.

The main question we are seeking to answer is:

**Have Covid-19 cases in each Victorian suburb changed their popularity for homeowners in Victoria?**

***Working questions***

1. **What is the popularity of each suburb in Victoria before the Covid-19 pandemic happened (before February 2020)?**
   1. Measured by changes to housing price in each suburb
   2. Measured by numbers of housing purchase in each suburb
   3. Measure the popularity difference between metropolitan and regional Victoria
2. **What are the factors that contribute to this popularity?**
   1. Does the crime rate in each suburb contribute to its popularity?
   2. Does the family-friendly zonings (schools, hospitals) in each suburb contribute to its popularity?

BONUS: Find dataset for question below if we want more later

* 1. Does the proximity to the CBD in each suburb contribute to its popularity?
  2. Does the celebrity homeowners in each suburb contribute to its popularity?

1. **What is the popularity of each suburb in Victoria after the Covid-19 pandemic happened (after February 2020)?**
2. **What are the factors that contribute to this popularity?**
   1. Does the number of Covid-19 cases in each suburb contribute to its popularity?

BONUS: Find dataset for question below if we want more later

* 1. Does the lockdown-friendly zonings (parks, rivers, nature) in each suburb contribute to its popularity?
  2. Does the health-friendly zoning (hospitals, medical clinics, testing place) in each suburb contribute to its popularity?

1. **Datasets**
2. **To measure the popularity of each suburb before and after Covid-19**

<https://www.kaggle.com/htagholdings/aus-real-estate-sales-march-2019-to-april-2020>

1. **To measure the factors that contribute to the popularity before Covid-19**
   1. Crime rate

<https://www.crimestatistics.vic.gov.au/crime-statistics/latest-crime-data-by-area>

* 1. Family-friendly zonings

<https://discover.data.vic.gov.au/dataset/hospital-locations-spatial>

<https://discover.data.vic.gov.au/dataset/school-locations-time-series>

BONUS: Find dataset for question below if we want more later

* 1. Celebrity homeownership
  2. Proximity to the CBD

1. **To measure the factors that contribute to the popularity after Covid-19**
2. Covid-19 cases in each suburb

Victoria active cases by postcode

<https://docs.google.com/spreadsheets/d/e/2PACX-1vTwXSqlP56q78lZKxc092o6UuIyi7VqOIQj6RM4QmlVPgtJZfbgzv0a3X7wQQkhNu8MFolhVwMy4VnF/pub?gid=0&single=true&output=csv>

1. Lockdown-friendly zonings

Google Maps API

BONUS: Find dataset for question below if we want more later

1. Health-friendly zonings
2. **Methodology and analysis**
3. **To measure the popularity of each suburb before Covid-19**

Summary statistics (Mean, median, mode)

1. **To measure the popularity of each suburb after Covid-19**

Summary statistics (Mean, median, mode)

1. **To measure the factors that contribute to the popularity before Covid-19**
2. **Crime rate**

Regression analysis between suburb popularity and crime rate

1. **Family-friendly zonings**

Regression analysis between suburb popularity and zone infrastructures

1. **Celebrity homeownership**

Regression analysis between suburb popularity and celebrity homeownership

1. **To measure the factors that contribute to the popularity after Covid-19**
2. **Covid-19 cases in each suburb**

Regression analysis between suburb popularity and Covid cases

1. **Lockdown-friendly zonings**

Regression analysis between suburb popularity and zone infrastructures

\*\* Keep monthly sales normalised

\*\* Find recent real estate data