1. Project Planning

In the planning phase, you’ll prepare several documents to help guide you through the execution of your project.

a) Project Description

Fill in the mid-term Project Document shared with you in Discord. It should contain at least the following:

* Climate Change in Canada
* Visualize regional trends in temperature and precipitation across Canada
* This data may be of use across several fields, with specific applications reliant on the particular use case.
  + Municipal governments may consider temperature and precipitation trends when forecasting budgetary needs for energy requirements, snow and ice removal, parks and forestry management, disaster relief programs, building code regulations, street maintenance, support for unhoused persons, etc.
  + Agricultural organizations may adjust planting / harvesting dates, harvest yield projections, choice of crop / seed variant, etc.

**Deliverable:** Project description document

2. Project Setup

To start off on the right foot, you’ll need a good project setup:

a) Git repo setup \*\*DONE

Create a repo on GitHub.

b) Access to Data \*\*DONE

Data gathering is one of the most important parts of the project. Sometimes, it can take a lot of time and the data we find are not completely as we expected. Make sure to plan enough time for this step.

**Deliverable:** Data are ready

3. Project Workflow

Project Communication \*\*IN PROGRESS

Conduct daily check-ins in your group, you should be in regular communication with one another.

4. Project Development

\*\* DEVELOP FEATURE LIST & MILESTONES

You should work on the development of your project according to your feature list and project milestones.

**SPECIFIC QUESTIONS**

What is the hottest/coldest month in each city on average?

* “Average Climate”: Average temperature by month for each city
* Line chart
* Consider overlaying avg precip vertical bars for single city or comparison between max 3 cities

When does winter start in each city? Has this changed over time?

* Winter: First frost to last frost
  + Longest gap between days below 0?
  + Num day of year for first day below 0 in q3/4?

Is winter weather becoming more intense in general?

* Number of days below 0
* Average temp
* Amount of precipitation

Are extreme winter weather events increasing in frequency, intensity?

Feature List:

Average Temp (National) by Year

Sum Precipitation (National) by Year

Average Temp by City by Year

Sum Precipitation by City by Year

Average Temp by City by Season

Sum Precipitation by City by Season

Average Temp by City by Month

Sum Precipitation by City by Month

Outlier Temp Events (National)

Outlier Precipitation Events (National)

Outlier Temp Events by Season (National)

Outlier Precipitation Events by Season (National)

Outlier Temp Events by Month (National)

Outlier Precipitation Events by Month (National)

Outlier Temp Events by City

Outlier Precipitation Events by City

Outlier Temp Events by Season by City

Outlier Precipitation Events by Season by City

Outlier Temp Events by Month by City

Outlier Precipitation Events by Month by City

Average Annual Temperature Volatility (YOY)

Average Monthly Temperature Volatility (MOM)

Average Monthly Temperature Volatility by Year (MOM/YOY)

5. Project Presentation

\*\* CREATE PRESENTATION

It’s important to take some time to structure the presentation of your project.

* You should have demonstrated your final dashboard and shown how a potential stakeholder could use it to gain insights into a business problem. Try **not** to show your code during the presentation since most of the audience won't be able to understand it properly.
* Audio/video setup: it’s important that you check your setup to ensure that everything works.
* Presentation practice: It’s important to practice before the presentation day. You should practice in front of a mentor so you can get some feedback.