Assignment 2

In this assignment, you will be building a weather reporting website by making use of the API published by https://openweathermap.org/api

You will need to sign up for an API key (it is free). A user is able to enter any Canadian city and get the weather data on the city using the API.

On this weather reporting website, there will be a **radio button** and a **select dropdown list**.

The radio button has 2 options:
- Current weather condition
- Weather forecast

The dropdown list has 3 options:
- Vancouver
- Montreal
- Toronto

Current weather condition
If the current weather condition is selected for the radio button, on select of the dropdown list, you will make an API call to https://openweathermap.org/current which will return the current weather condition for selected city.

You will need to retrieve following data from the JSON response and display the result on the webpage:
- **name**: the city name
- **time**: time of the data
- **weather.description**: the description of the weather
- **main.temp:** current temperature

Note:
1. The current temperature will be in Kelvin so you will need to convert the data from Kelvin to degree Celsius before displaying the data on the webpage. The formula for Kelvin to Celsius conversion is:

$$T_{(°C)} = T_{(K)} - 273.15$$

2. The time of the data in Unix Time (https://www.epochconverter.com/). You will need to convert Unix Time to local time. Some references on the net for this:
   a. https://www.digitalocean.com/community/tutorials/understanding-date-and-time-in-javascript
   b. https://stackoverflow.com/questions/847185/convert-a-unix-timestamp-to-time-in-javascript

Weather Forecast

If weather forecast is selected for the radio button, on select of the dropdown list, you will make an API call to https://openweathermap.org/forecast5 which will return the weather forecast for selected city.

You will only need to display the forecasted weather for the selected city at **12pm** PST for the next **3 days**. The response contains data for the next 5 days every 3 hours so you will need to filter the response data accordingly.

Below are the data that you will need to parse from the response:
- **city.name**: city name
- **list.main.temp**: temperature of the city at the given time specified at **list.dt**
- **list.weather.description**: description of the weather forecasted at **list.dt**

Note:
1. The time returned in the response in **list.dt** is Unix Time. You will need to convert this time to the local time before filtering down the result for 12pm local time for the next 3 days
2. Every time the selection for the radio button is changed, the displayed data needs to be removed and the selection for the dropdown list needs to be reset so that the user can make a new selection

Help:
1. After you create the API key, because it is a GET request, you can verify the response simply by entering the request endpoint in the browser. Example (replace xxx below with your own API key):
   a. Current weather:
      http://api.openweathermap.org/data/2.5/weather?q=vancouver,ca&appid=xxx
   b. Weather forecast:
      http://api.openweathermap.org/data/2.5/forecast?q=vancouver,ca&appid=xxx