General Project context

You are going to develop a fitness analysis/prediction app for Android (preferred) or alternatively as a regular Java application. The objective is to analyze historical fitness and weather data, visually represent it and combine these data sources for more advanced data analytics.

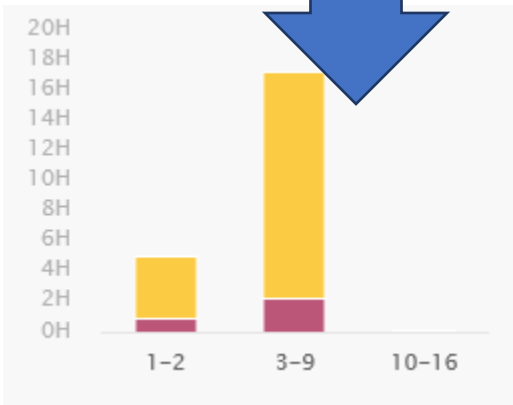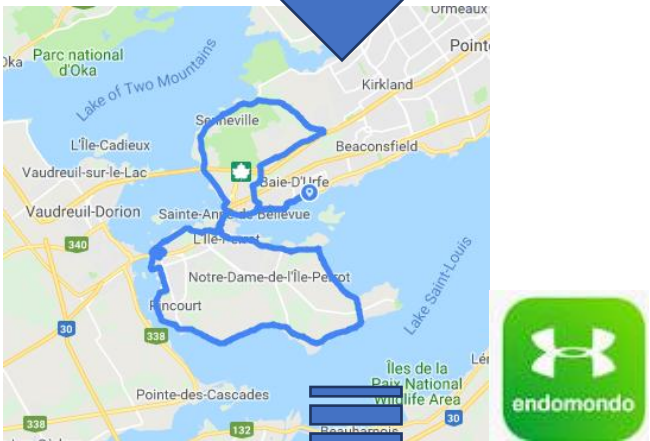Each project team consists of 2 groups, with each group having 5 members.

Tasks:

1. Group fitness data: collect, extract and visualize fitness (cycling sport)data using some simple statistics
2. Group weather data: collect, extract and visualize weather data including some simple statistics
3. Support more advanced data analytics by combining fitness and weather data to analyze historical fitness performance and potentially predict future performance.

Important:

1. Each group member has to actively participate/contribute in all group activities/deliverables.
2. Use Githubfor your documentation and code sharing.
3. There will be two major iterations:
    a. Iteration #1: Each individual group will complete task 1 or task 2
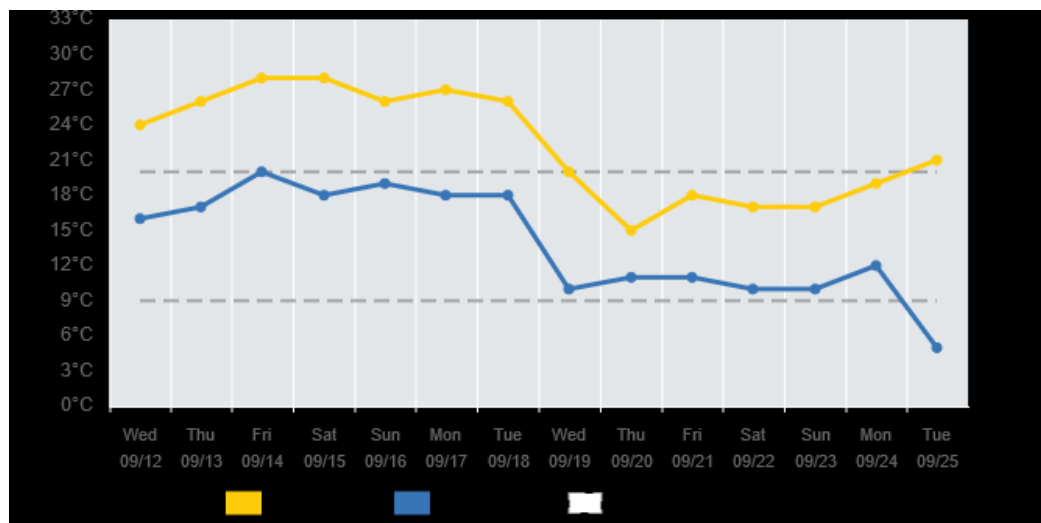   b. Iteration #2: Task #3 – team works together.

Task #1

Task #2

1. Obtain (historical) and extractweather data starting fromApril 2018 – present. Ideally the wind speed and the temperature (min/max) for these days should be included.

Hourly Data Report for September 10, 2018

TIME	Temp °C	Dew Point Temp °C	Rel Hum %	Wind Dir 10's deg	Wind Spd km/h	Visibility km	Stn Press kPa	Hmdx	Wind Chill	Weather
00:00	10.5	2.8	59	5	16	24.1	102.36			NA
01:00	10.6	3.3	60	2	14	24.1	102.35			Mostly Cloudy
02:00	9.2	5.1	75	3	18	24.1	102.33			NA
03:00	8.6	4.9	77	2	15	24.1	102.30			NA
04:00	8.3	4.9	79	2	13	24.1	102.29			Mostly Cloudy
05:00	8.2	5.0	80	2	13	24.1	102.28			NA
06:00	8.1	5.2	82	3	12	24.1	102.29			NA
07:00	10.2	6.0	75	3	12	24.1	102.30			Cloudy
08:00	13.2	6.0	62	7	15	24.1	102.32			NA
09:00	14.3	6.2	58	9	15	48.3	102.31			NA
10:00	15.4	6.4	55	10	16	48.3	102.27			Cloudy
11:00	16.7	5.4	47	11	23	48.3	102.23			NA
12:00	17.2	5.1	44	12	27	48.3	102.18			NA

2. Visualize the data

Task 3

Combine the analysis and data from both data sources to allow for additional data mining/analytics

E.g., dependencies between cycling performance and temperature/wind/etc. – any patterns ?