

Unit tests

- List <Sensor> zoneSimilaire (Timestamp start, Timestamp end, Sensor sensor) :

It is called when the agency types the requested information

It ranks the sensors by similarity of their measurements on a certain period to identify area of similar air qualities

It returns a list of sensors that are already sorted and ranked

TEST on an extract of the dataset:

INPUT : start = 01/01/2019 end = 02/01/2019 sensor = sensor of ID : 0

EXPECTED OUTPUT : List of the sensors ranked by similarity

- Float meanCirclePeriod(Float long, Float lat, Timestamp start, Timestamp end) :

It is called

It calculates the mean air quality in a certain area on a given period.

It returns a float for the mean

TEST on an extract of the dataset :

INPUT : start = 01/01/2019 end = 02/01/2019

EXPECTED OUTPUT : Float, mean of the ATMO index of each sensor and on each day

- Float meanCircleMoment(Float long, Float lat, Timestamp moment) :

Same principle but on just one day

TEST :

INPUT : moment = 01/01/2019

EXPECTED OUTPUT : Float, mean of the ATMO index of each sensor

- calculateATMOIndex(Float indiceO3, Float indiceNO2, Float indiceSO2, Float indicePM10) :

It is called by all functions analyzing the air quality

It calculates the ATMO index of an area or a given sensor

It returns a float for the index

TEST on some values :

INPUT : 50.25, 74.5, 41.5 ,44.75

EXPECTED OUTPUT : 1.5