MongoDB
External data from Data.gov.hk

Tutorial:

https://api.mongodb.com/python/current/tutorial.html
https://www.runoob.com/python3/python-mongodb.html
https://www.w3schools.com/python/python_mongodb_getstarted.asp
https://juejin.im/post/5addbd0e518825671f2f62ee

https://oranwind.org/python-pandas-ji-chu-jiao-xue/
https://pandas.pydata.org/pandas-docs/stable/user_guide/index.html

Usage:

In this project, MongoDB as a service has been used. It provides a no-sql structured database on the distributed database instances. To provide better user experience, it can ensure no single point of failure and provide high availability guaranteed. We use the no-sql database to store the user's id and their temperature records. To compare with these 2 database services between Redis and MongoDB, MongoDB service is much more suitable for this project because MongoDB is better in searching data from the database. MongoDB supports query operator syntax to lookup values from db. However, Redis only supports simple methods - get value by key. Therefore, some information such as Symptoms, Personal Advice, Contact Numbers and Where can buy masks will be stored in Redis. The user's temperature record will be stored in MongoDB.
Also, Our application will collect data from data.gov.hk to show the latest statistics about the coronavirus such as Total Cases in HK, Number of M/F are infected, Num of hospitalized / Discharge cases etc.

Sample Code:

```python
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["hkbupj"]
temperatureHistoryDb = mydb["temperatureHistory"]
```

```
historys = temperatureHistoryDb.find({"user": event.source.user_id}).so
rt("time", order).limit(length)

record = { "user": event.source.user_id, "temperature": temp, "time":da
tetime.now() }

temperatureHistoryDb.insert_one(record)
```

```python
import pandas as pd
import requests

headers = {'User-
Agent': 'Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML,
 like Gecko) Chrome/56.0.2924.76 Safari/537.36'}
        url="http://www.chp.gov.hk/files/misc/enhanced_sur_pneumoni
a_wuhan_eng.csv"
s=requests.get(url, headers= headers).text
c=pd.read_csv(StringIO(s), sep=",")
genders = c.groupby("Gender")
status = c.groupby("Hospitalised/Discharged/Deceased")
residents = c.groupby("HK/Non-HK resident")
cases = c.groupby("Case classification*")
```