population

July 30, 2021

[6]:
```
import csv
import matplotlib.pyplot as plt
import numpy as np
```

[7]:
```
data: [] = list()
name:str = ''
name2 = ''
home = list()
away = None
```

[8]:
```
data = csv.reader(open('../data/202106_202106_Population.csv', 'rt',␣
 ↪encoding='utf-8'))
next(data)
data = list(data)
```

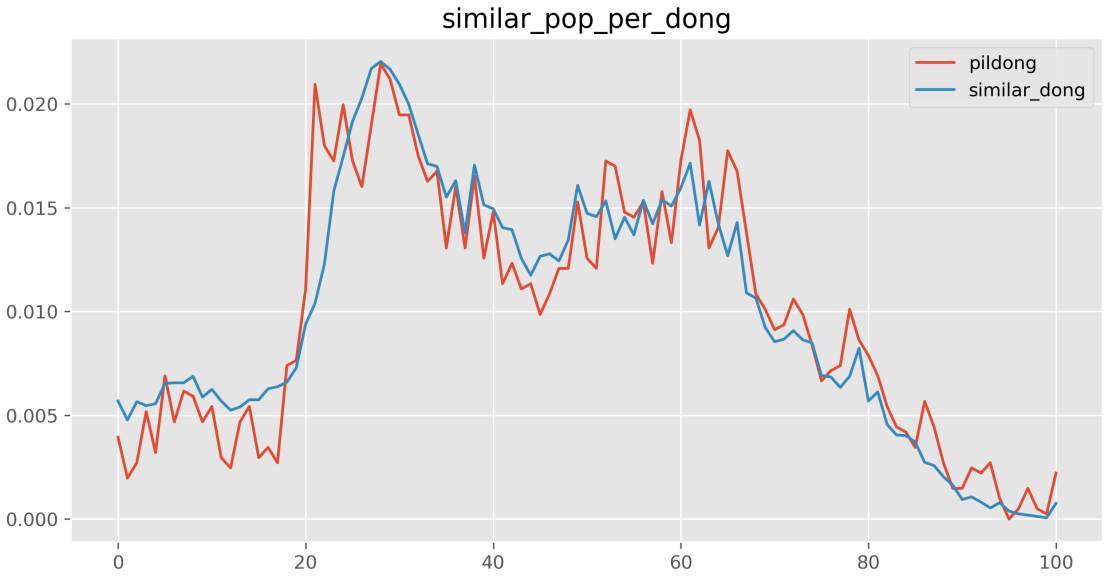
[9]:
```
name = " "#input("   ")
for i in data :
    if name in i[0]:
        home = np.array(i[3:], dtype=int)/int(i[2])
        name = i[0]
```

[13]:
```
mn = 1
for i in data:
    bar = np.array(i[3:], dtype=int)/int(i[2])
    s = np.sum(abs(home-bar))  # ((self.home-self.away)**2) / (abs(self.
 ↪home-self.away))
    if s < mn and name not in i[0]:
        mn = s
        name2 = i[0]
        result = bar
away = result
print(name2)
```

```
        1 (1159051000)
```

```
<ipython-input-13-78cc7ff7738d>:3: RuntimeWarning: invalid value encountered in
true_divide
  bar = np.array(i[3:], dtype=int)/int(i[2])
```

[14]:
```
plt.style.use('ggplot')
plt.figure(figsize=(10, 5), dpi=300)
plt.title('similar_pop_per_dong')
plt.plot(home, label="pildong")
plt.plot(away, label="similar_dong")
plt.legend()
plt.show()
```



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