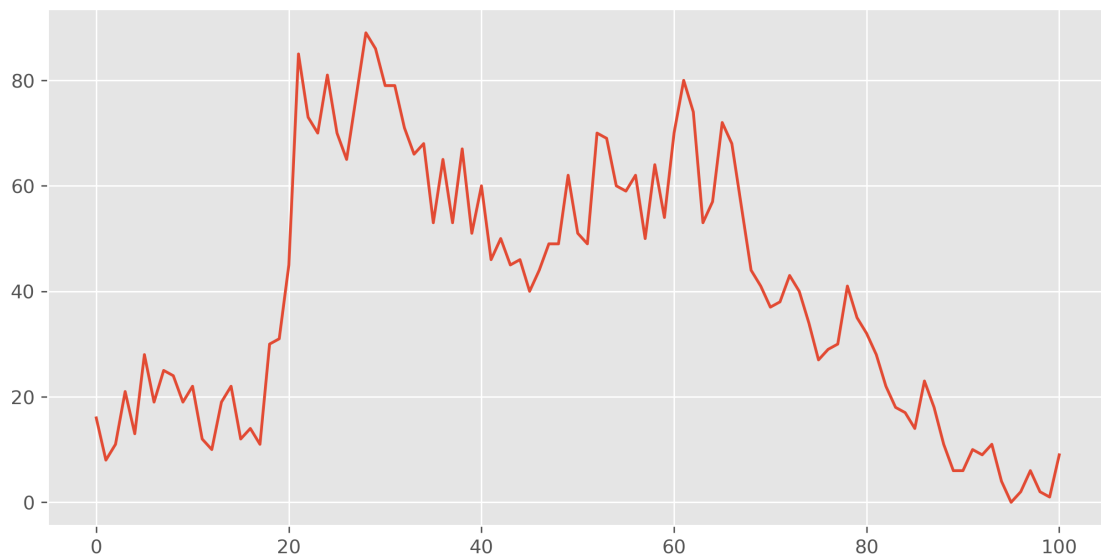# population_T

July 30, 2021

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

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

```
[60]: # print([i for i in data])
```
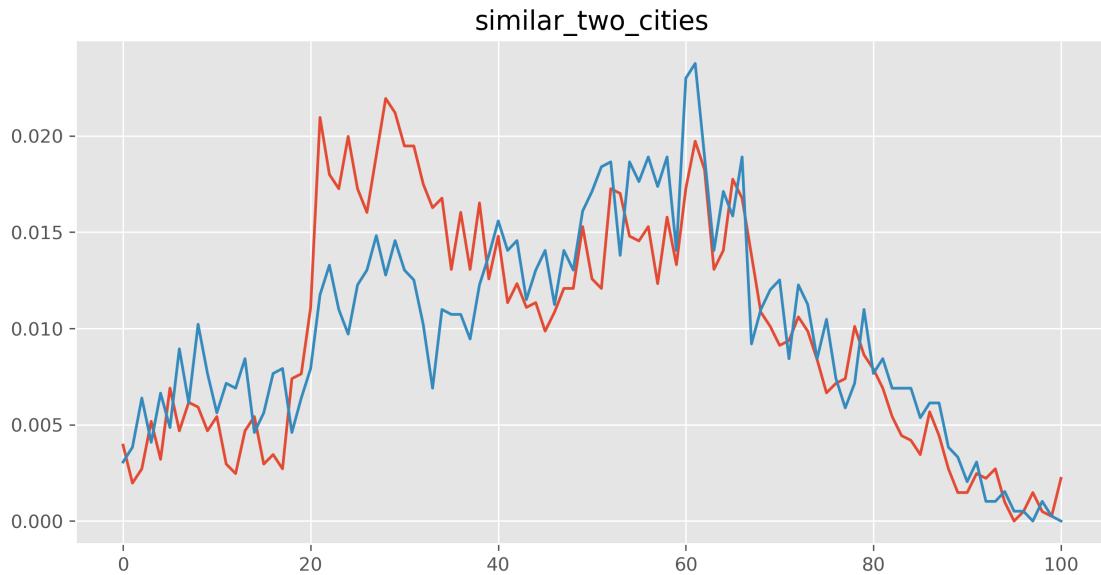
```
[61]: home = []
      name = " " # input()
      [home.append(int(j)) for i in data if name in i[0] for j in i[3:]]
      plt.style.use('ggplot')
      plt.figure(figsize=(10, 5), dpi=300)
      plt.plot(home)
      plt.show()
```

```
[62]:  mn = 1
       home = []
       result = 0
       for i in data:
           if name in i[0]:
               home = np.array(i[3:], dtype=int)/int(i[2])
       for i in data:
           away = np.array(i[3:], dtype=int) / int(i[2])
           s = np.sum((home - away) ** 2)
           if s < mn and name not in i[0]:
               mn = s
               result_name = i[0]
               result = away
       plt.style.use('ggplot')
       plt.figure(figsize=(10, 5), dpi=300)
       plt.title('similar_two_cities')
       plt.plot(home, label='a')
       plt.plot(away, label='b')
       plt.show()
```

```
<ipython-input-62-864dff8263ff>:8: RuntimeWarning: invalid value encountered in
true_divide
  away = np.array(i[3:], dtype=int) / int(i[2])
```



```
[ ]:
```

```
[ ]:
```