```
In [2]: from bs4 import BeautifulSoup
        import urllib3
        import re
        import time
        import pandas as pd
        from pandas import Series, DataFrame
        ## ステップ1
        http = urllib3.PoolManager()
        url = "https://suumo.jp/jj/chintai/ichiran/FR301FC001/?ar=030&bs=040&ta=13&sc=13102&cb=0.0&ct=9999999&et
        response = http.request('GET', url)
        soup = BeautifulSoup(response.data, "html.parser")
        ## ステップ2
        # ページ数を取得
        s = soup.find("div", {"class": "pagination pagination_set-nav"})
        num_pages = int(s.find_all("a")[-2].string)
        # 全てのページのURLを作成
        urls = []
        urls.append(url)
        for i in range(num_pages-1):
           pg = str(i+2)
           url page = url + '&pn=' + pg
           urls.append(url page)
        names = [] #マンション名
        addresses = [] #住所
        locations0 = [] #立地1つ目(最寄駅/徒歩~分)
        locations1 = [] #立地2つ目(最寄駅/徒歩~分)
        locations2 = [] #立地3つ目(最寄駅/徒歩~分)
        ages = [] #築年数
        haiah+a _ [] #2=‰吉+
```

```
floors = [] #階
rent = [] #賃料
admin = [] #管理費
others = [] #敷/礼/保証/敷引,償却
floor plans = [] #間取り
areas = [] #専有而積
detail urls = [] # 詳細URL
## ステップ4
for url in urls:
   time.sleep(3)
   response = http.request('GET', url)
   soup = BeautifulSoup(response.data, "html.parser")
   apartments = soup.find all('div', class = 'cassetteitem')
## ステップ5
   for apartment in apartments:
        room_number = len(apartment.find_all('tbody'))
        name = apartment.find('div', class_='cassetteitem_content-title').text
        address = apartment.find('li', class = cassetteitem detail-col1').text
        for i in range(room number):
           names append (name)
           addresses.append(address)
## ステップ6
        sublocation = apartment.find('li', class = 'cassetteitem detail-col2')
        cols = sublocation.find all('div')
        for i in range(len(cols)):
           text = cols[i].find(text=True)
           for j in range(room_number):
               if i == 0:
                   locations0.append(text)
               elif i == 1:
                   locations1.append(text)
               elif i == 2:
```

```
locations2.append(text)
## ステップ7
        age and height = apartment.find('li', class = cassetteitem detail-col3')
        age = age and height('div')[0].text
        height = age and height('div')[1].text
        for i in range(room_number):
            ages.append(age)
           heights.append(height)
## ステップ8
        table = apartment.find('table')
        rows = []
        rows.append(table.find_all('tr'))
        data = []
        for row in rows:
            for tr in row:
                cols = tr.find all('td')
                if len(cols) != 0:
                   _floor = cols[2].text
                   _floor = re.sub('[\r\n\t]', '', _floor)
                    _rent_cell = cols[3].find('ul').find_all('li')
                   rent = rent cell[0].find('span').text
                   admin = rent cell[1].find('span').text
                   _deposit_cell = cols[4].find('ul').find_all('li')
                   _deposit = _deposit_cell[0].find('span').text
                    reikin = deposit cell[1].find('span').text
                    others = deposit + '/' + reikin
                   _floor_cell = cols[5].find('ul').find_all('li')
                   _floor_plan = _floor_cell[0].find('span').text
                   _area = _floor_cell[1].find('span').text
                    detail url = cols[8].find('a')['href']
                    detail url = 'https://suumo.jp' + detail url
```

```
text = [ floor, rent, admin, others, floor plan, area, detail url]
                   data.append(text)
        for row in data:
           floors.append(row[0])
           rent_append(row[1])
           admin_append(row[2])
           others.append(row[3])
           floor plans.append(row[4])
           areas.append(row[5])
           detail_urls.append(row[6])
        print(data)
## ステップ9
#各リストをシリーズ化
names = Series(names)
addresses = Series(addresses)
locations0 = Series(locations0)
locations1 = Series(locations1)
locations2 = Series(locations2)
ages = Series(ages)
heights = Series(heights)
floors = Series(floors)
rent = Series(rent)
admin = Series(admin)
others = Series(others)
floor plans = Series(floor plans)
areas = Series(areas)
detail urls = Series(detail urls)
suumo df = pd.concat([names, addresses, locations0, locations1, locations2, ages, heights, floors, rent,
suumo df.columns=['マンション名','住所','立地1','立地2','立地3','築年数','建物の高さ','階層','賃料料','管理費', '勇
suumo df.to csv('suumo cyuoku.csv', sep = '\t',encoding='utf-16')
```

/Users/kai/anaconda3/lib/python3.6/site-packages/urllib3/connectionpool.py:847: InsecureRequestWarning: Unverified HTTPS request is being made. Adding certificate verification is strongly advised. See: https://urllib3.readthedocs.io/en/latest/advanced-usage.html#ssl-warnings

```
(https://urllib3.readthedocs.io/en/latest/advanced-usage.html#ssl-warnings)
   InsecureRequestWarning)
/Users/kai/anaconda3/lib/python3.6/site-packages/urllib3/connectionpool.py:847: InsecureRequestWarning:
```

Unverified HTTPS request is being made. Adding certificate verification is strongly advised. See: https://urllib3.readthedocs.io/en/latest/advanced-usage.html#ssl-warnings
(https://urllib3.readthedocs.io/en/latest/advanced-usage.html#ssl-warnings)

InsecureRequestWarning)

[['4階', '10.4万円', '12000円', '10.4万円/-', 'ワンルーム', '32.92m2', 'https://suumo.jp/chintai/jnc_00004 7505747/?bc=100148802254'], ['4階', '11万円', '12000円', '11万円/-', 'ワンルーム', '32.77m2', 'https://suumo.jp/chintai/jnc_000040125469/?bc=100146064214'], ['4階', '11万円', '12000円', '11万円/-', 'ワンルーム', '32.77m2', 'https://suumo.jp/chintai/jnc_000047505745/?bc=100146716725'], ['7階', '11.9万円', '12000円', '11.9万円/-', '1DK', '32.92m2', 'https://suumo.jp/chintai/jnc_000047505748/?bc=100145784414'], ['11階', '12.2万円', '12000円', '12.2万円/-', '1DK', '32.77m2', 'https://suumo.jp/chintai/jnc_000047505740/?bc=100144314658'], ['4階', '11万円', '24000円', '11万円/-', 'ワンルーム', '32.77m2', 'https://suumo.jp/chintai/jnc_000047505744/?bc=100143996163'], ['13階', '12.3万円', '12000円', '12.3万円/-', '1DK', '32.77m2', 'https://suumo.jp/chintai/jnc_000047505744/?bc=100143996163'], ['13階', '12.3万円', '12000円', '12.3万円/-', '1DK', '32.77m2', 'https://suumo.jp/chintai/jnc_000047505742/?bc=100148113467'] ['11階', '12.2万円', '12000円', '12.3万円', '12000円', '12.2万円', '12000円', '12000

In []: