

專題介紹

股票大數據分析

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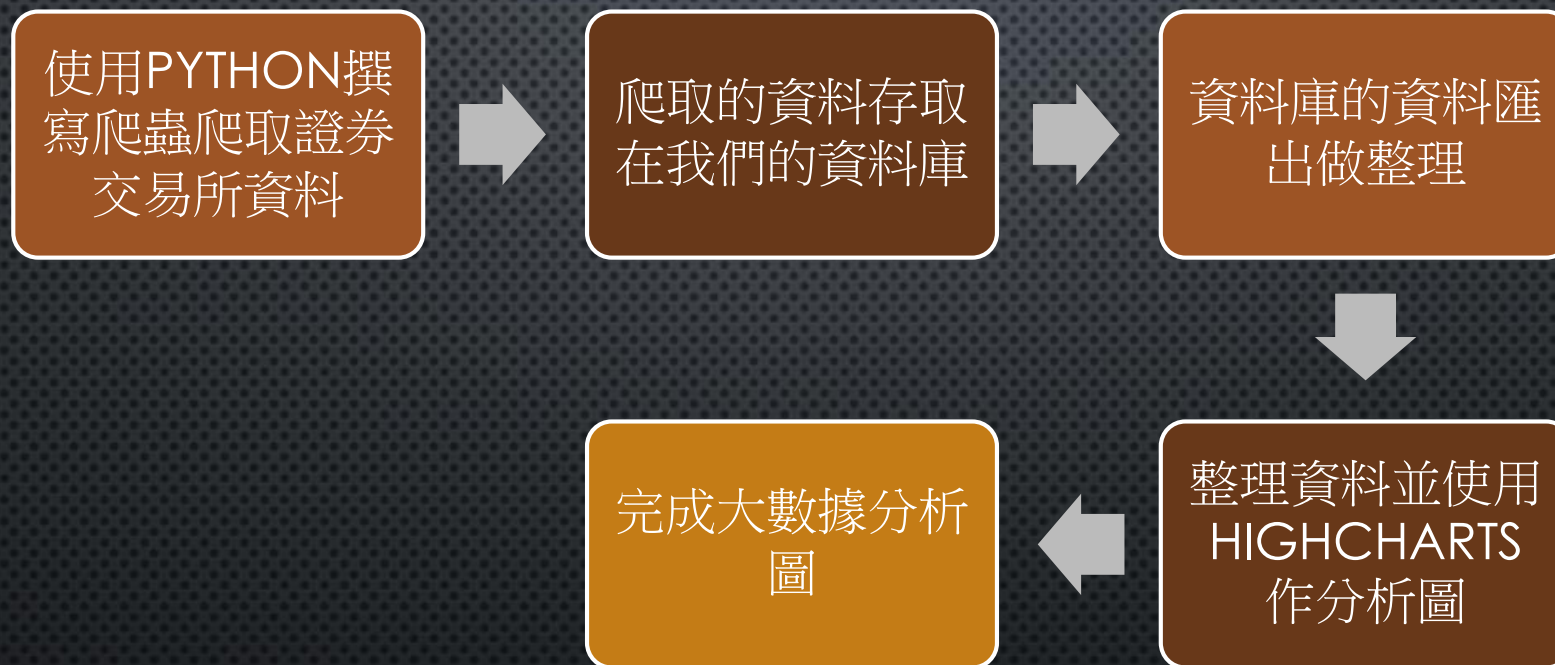
大綱

- 1.報告分析流程
- 2.介紹程式碼
- 3.資料整理與作圖
- 4.呈現於網頁

⚙️ 這是股票你懂的

[首頁](#)[前9漲跌](#)[前9交易金額](#)[前9交易張數](#)[相關網站](#)[原始資料](#)[更多漲跌](#)

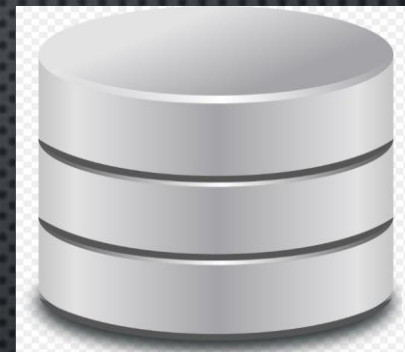
構想作法



需要用到的軟體&概念流程:



臺灣證券交易所



爬蟲CODE

```
import requests
import datetime
import sqlite3
import time
#from datetime import date, timedelta #昨天
db_name = 'data.sqlite3'

def str_to_num(s, c_type):
    # 將字串 s 移除逗點與句點後轉為 float/int
    # 若非 float 或 int 則不處理，直接回傳
    if c_type not in ['float', 'int']:
        return s
    s = s.replace(',', '')
    try:
        if c_type == 'int':
            return int(s)
        else: # c_type == 'float':
            return float(s)
    except: # 轉換失敗則回傳 -1
        return -1

def crawl_price(date):
    # 將 datetime 物件字串化為 YYYYMMDD 格式
    datestr = date.strftime('%Y%m%d')

    # 從該交易所網站上獲取指定日期的所有個股資訊
    resp = requests.get('http://www.twse.com.tw/exchangeReport/MI_INDEX?response=json&date='
                        + datestr + '&type=ALLBUT0999')

    data = resp.json()
    if 'data5' not in data: # 當天沒有資料，可能為假日
        return None

    # 欄位定義:
    # ['日期(新增)', '證券代號', '證券名稱', '成交股數', '成交筆數', '成交金額', '開盤價', '最高價', '最低價', '收盤價', '漲跌價差',
    # '最後揭示買價', '最後揭示買量', '最後揭示賣價', '最後揭示賣量', '本益比']
    types = ['datetime', 'text', 'text', 'int', 'int', 'int', 'float', 'float', 'float', 'float', 'float',
            'float', 'int', 'float', 'int', 'float']

    prices = []
    for item in data['data5']:
        if item[3] == '0': # 忽略成交股數為 0 的資料列
            continue
        # 第 10 欄 ('漲跌(+/-)', 為 HTML 碼) 不需要，故移除之
        filtered = item[0:9] + item[10:]
        # 插入日期欄位到第 1 欄
        filtered = filtered[:0] + [date.strftime('%Y-%m-%d')] + filtered[0:]
        prices.append([str_to_num(s, types[i]) for i, s in enumerate(filtered)])

    return prices

#for row in crawl_price(datetime.datetime(2018, 10, 19)):
#    print(row)
```

In [5]:

```
In [5]: runfile('C:/Users/JinJheng/.spyder-py3/twse_db.py', wdir='C:/Users/JinJheng/.spyder-py3')
Traceback (most recent call last):
```

```
File "<ipython-input-5-2d0f17cb29f7>", line 1, in <module>
    runfile('C:/Users/JinJheng/.spyder-py3/twse_db.py', wdir='C:/Users/JinJheng/.spyder-py3')

File "D:\Anaconda3\lib\site-packages\spyder\utils\site\sitecustomize.py", line 705, in runfile
    execfile(filename, namespace)

File "D:\Anaconda3\lib\site-packages\spyder\utils\site\sitecustomize.py", line 102, in execfile
    exec(compile(f.read(), filename, 'exec'), namespace)

File "C:/Users/JinJheng/.spyder-py3/twse_db.py", line 39, in <module>
    for row in crawl_price(datetime.datetime(2018, 10, 14)):
```

TypeError: 'NoneType' object is not iterable

失敗則可能為假日

```
def get_date_range_from_db(fname):
    conn = sqlite3.connect(fname) # 連接資料庫
    c = conn.cursor() # 使用cursor()方法創建一個游標對象cursor
    #從daily_price表中獲取所有欄位，但結果依照日期由小到大排序(ASC)，並且給第一筆結果就好(LIMIT 1)
    c.execute('select * from daily_price order by 日期 ASC LIMIT 1;')
    #c[0][0] 指的是資料庫查詢結果的第一筆資料(index 為 0)的第一個欄位(index 為 0)
    date_from = datetime.datetime.strptime(list(c)[0][0], '%Y-%m-%d')
    c.execute('select * from daily_price order by 日期 DESC LIMIT 1;')
    #datetime.strptime()指的輸入是一個日期字串與其格式，輸出是一個 datetime 物件
    date_to = datetime.datetime.strptime(list(c)[0][0], '%Y-%m-%d')
    conn.close() # 關閉資料庫連接
    return date_from, date_to
```

```
def update_db(date_from, date_to):
    print('更新資料: {} 到 {}'.format(date_from.strftime('%Y-%m-%d'), date_to.strftime('%Y-%m-%d')))
    current = date_from
    while current <= date_to:
        prices = crawl_price(current)
        if prices:
            bulk_insert(db_name, prices)
            print(current.strftime('%Y-%m-%d'), '... 成功!')
        else:
            print(current.strftime('%Y-%m-%d'), '... 失敗 (可能為假日)')
        current += datetime.timedelta(days=1)
        time.sleep(5) # 放慢爬蟲速度
```

```
db_from, db_to = get_date_range_from_db(db_name)
print('資料庫日期: {} 到 {}'.format(db_from.strftime('%Y-%m-%d'), db_to.strftime('%Y-%m-%d')))
date_from = db_to + datetime.timedelta(days=1)
date_to = datetime.datetime.today()#-timedelta(1) #昨天
update_db(date_from, date_to)
```

創建一個游標對象cursor
去執行SQL查詢

s({})'.format(', '.join(values))

成功將會顯示 "成功"

#主程式

#昨天

嘗試多次

```
In [50]: runfile('C:/Users/JinJheng/.spyder-py3/twse_db.py', wdir='C:/Users/JinJheng/.spyder-py3')
Traceback (most recent call last):

File "<ipython-input-50-2d0f17cb29f7>", line 1, in <module>
    runfile('C:/Users/JinJheng/.spyder-py3/twse_db.py', wdir='C:/Users/JinJheng/.spyder-py3')

File "D:\Anaconda3\lib\site-packages\spyder\utils\site\sitecustomize.py", line 705, in runfile
    execfile(filename, namespace)

File "D:\Anaconda3\lib\site-packages\spyder\utils\site\sitecustomize.py", line 102, in execfile
    exec(compile(f.read(), filename, 'exec'), namespace)

File "C:/Users/JinJheng/.spyder-py3/twse_db.py", line 39, in <module>
    for row in crawl_price(datetime.datetime(2018, 10, 3)):
                                                    #主程式

File "C:/Users/JinJheng/.spyder-py3/twse_db.py", line 25, in crawl_price
    resp = requests.get('http://www.twse.com.tw/exchangeReport/MI_INDEX?
response=json&date='+datestr+'&type=ALLBUT0999')

File "D:\Anaconda3\lib\site-packages\requests\api.py", line 72, in get
    return request('get', url, params=params, **kwargs)

File "D:\Anaconda3\lib\site-packages\requests\api.py", line 58, in request
    return session.request(method=method, url=url, **kwargs)

File "D:\Anaconda3\lib\site-packages\requests\sessions.py", line 508, in request
    resp = self.send(prepare_request(self, url, **kwargs))

File "D:\Anaconda3\lib\site-packages\requests\sessions.py", line 618, in send
    r = adapter.send(request, **kwargs)

File "D:\Anaconda3\lib\site-packages\requests\adapters.py", line 508, in send
    raise ConnectionError(e, request=request)

ConnectionError: HTTPConnectionPool(host='www.twse.com.tw', port=80): Max retries exceeded with
url: /exchangeReport/MI_INDEX?response=json&date=20181003&type=ALLBUT0999 (Caused by
NewConnectionError('<urllib3.connection.HTTPConnection object at 0x000001BDB6EB9160>: Failed to
establish a new connection: [WinError 10061] 無法連線，因為目標電腦拒絕連線。',))
```

執行結果

```
['2615', '2018-10-19', 1141620, 621, 18368101, 16.15, 16.3, 15.9, 15.95, 0.2, 15.95, 101, 16.15, 33, 15.64]
['2616', '2018-10-19', 103505, 74, 3001765, 29.0, 29.05, 28.85, 28.9, 0.15, 28.85, 9, 28.9, 7, 17.73]
['2617', '2018-10-19', 6761210, 3112, 154870595, 23.1, 23.2, 22.45, 22.45, 0.75, 22.45, 48, 22.5, 23, 11.4]
['2618', '2018-10-19', 4821409, 1095, 66499776, 13.9, 13.95, 13.7, 13.75, 0.2, 13.75, 892, 13.8, 42, 6.94]
['2630', '2018-10-19', 60000, 36, 1266550, 21.5, 21.5, 21.0, 21.5, 0.1, 21.5, 1, 22.35, 2, 0.0]
['2633', '2018-10-19', 11541957, 5190, 338441288, 29.1, 29.85, 28.7, 29.05, 0.55, 29.05, 70, 29.1, 18, 18.16]
['2634', '2018-10-19', 1564531, 731, 45295845, 29.2, 29.2, 28.8, 28.85, 0.5, 28.85, 96, 28.95, 1, 12.71]
['2636', '2018-10-19', 806011, 452, 20766277, 25.5, 26.15, 25.1, 26.1, 0.35, 26.05, 7, 26.1, 202, 10.12]
['2637', '2018-10-19', 3435490, 1517, 106570310, 31.35, 31.35, 30.8, 30.95, 0.5, 30.95, 4, 31.0, 39, 16.04]
['2642', '2018-10-19', 29000, 24, 669800, 23.5, 23.5, 22.95, 23.0, 0.6, 23.05, 2, 23.45, 1, 40.35]
['2701', '2018-10-19', 54853, 30, 682795, 12.5, 12.5, 12.4, 12.5, 0.0, 12.5, 2, 12.55, 2, 17.36]
['2702', '2018-10-19', 55000, 40, 863650, 15.45, 15.95, 15.45, 15.9, 0.0, 15.8, 7, 15.9, 6, 11.78]
['2704', '2018-10-19', 61700, 28, 1359500, 22.0, 22.1, 21.95, 22.1, 0.0, 22.0, 16, 22.1, 11, 19.22]
['2705', '2018-10-19', 75152, 41, 422338, 5.67, 5.67, 5.57, 5.67, 0.0, 5.62, 2, 5.67, 6, 0.0]
['2706', '2018-10-19', 77311, 48, 1067370, 13.75, 13.9, 13.75, 13.9, 0.0, 13.8, 2, 13.9, 3, 15.44]
['2707', '2018-10-19', 447761, 275, 59661974, 133.0, 134.0, 132.0, 134.0, 1.0, 133.5, 1, 134.0, 46, 12.48]
['2712', '2018-10-19', 9583, 11, 315514, 33.25, 33.25, 32.55, 33.0, 0.0, 33.6, 1, 34.95, 1, 0.0]
['2722', '2018-10-19', 4000, 3, 107450, 26.85, 26.9, 26.85, 26.85, 0.4, 26.35, 2, 26.85, 4, 78.97]
['2723', '2018-10-19', 384256, 285, 88478262, 230.0, 232.5, 228.0, 230.0, 4.0, 230.0, 2, 232.0, 13, 18.79]
['2727', '2018-10-19', 430366, 255, 34137093, 78.8, 80.0, 77.7, 80.0, 1.0, 79.7, 1, 80.0, 9, 15.69]
['2731', '2018-10-19', 270063, 239, 22254957, 82.0, 85.1, 80.1, 85.1, 2.9, 85.1, 4, 85.2, 1, 12.72]
['2739', '2018-10-19', 70999, 40, 2103570, 29.2, 30.0, 28.95, 30.0, 0.4, 29.2, 20, 30.0, 5,
```



data.sqlite3

Table: daily_price

	日期	證券代號	證券名稱	成交股數	成交筆數	成交金額	開盤價	最高價	最低價	收盤價	漲跌價差	最後揭示買價	最後揭示買量	最後揭示賣價	最後揭示賣量	本益比
	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾	過濾
1	2017-06-01	0050	元大台灣50	2221692	782	170334430	76.5	76.9	76.5	76.9	0.4	76.8	1	76.9	375	0
2	2017-06-01	0051	元大中型100	23000	13	649050	28.21	28.3	28.2	28.23	0.09	28.23	1	28.28	5	0
3	2017-06-01	0052	富邦科技	75	1	3472	-1	-1	-1	-1	0.0	46.41	1	46.5	8	0
4	2017-06-01	0053	元大電子	5001	6	168533	33.77	33.77	33.59	33.59	0.09	33.58	50	33.6	3	0
5	2017-06-01	0054	元大台商50	9000	5	214700	23.87	23.9	23.84	23.84	0.07	23.88	50	23.9	4	0
6	2017-06-01	0055	元大MSCI金融	42250	28	630365	14.91	14.99	14.91	14.91	0.04	14.91	7	14.99	25	0
7	2017-06-01	0056	元大高股息	388248	253	9644676	24.83	24.85	24.83	24.84	0.01	24.84	5	24.85	44	0
8	2017-06-01	0057	富邦摩台	12000	8	546620	45.61	45.64	45.48	45.64	0.08	45.65	20	45.7	3	0
9	2017-06-01	0058	富邦發達	2000	2	87690	44.0	44.0	43.69	43.69	0.39	43.67	10	43.98	10	0
10	2017-06-01	0059	富邦金融	2000	2	70630	35.44	35.44	35.19	35.19	0.25	35.04	1	35.34	1	0
11	2017-06-01	0061	元大寶滬深	4044100	942	62862739	15.52	15.57	15.51	15.56	0.09	15.56	4	15.57	77	0
12	2017-06-01	006203	元大MSCI台灣	2000	2	70530	35.27	35.27	35.26	35.26	0.0	35.3	50	35.62	20	0
13	2017-06-01	006204	永豐臺灣加權	29199	6	1462929	50.15	50.15	50.05	50.05	0.21	50.05	15	50.15	100	0
14	2017-06-01	006205	富邦上証	6415285	1298	175557565	27.24	27.45	27.24	27.43	0.22	27.43	16	27.44	3	0
15	2017-06-01	006206	元大上證50	3438550	455	92869215	27.05	27.09	26.9	27.0	0.2	27.0	47	27.01	3	0
16	2017-06-01	006207	FH滬深	2579000	311	52401308	20.25	20.38	20.25	20.38	0.14	20.38	44	20.39	7	0
17	2017-06-01	006208	富邦台50	1344	3	60324	45.1	45.1	45.1	45.1	0.0	45.01	10	45.14	10	0
18	2017-06-01	00631L	元大台灣50正2	1537050	348	46003475	29.77	29.99	29.77	29.99	0.25	29.99	6	30.0	111	0
19	2017-06-01	00632R	元大台灣50反1	15795639	1814	231306718	14.67	14.68	14.63	14.63	0.06	14.63	1523	14.64	3599	0
20	2017-06-01	00633L	富邦上証正2	39788902	6426	1459946200	36.55	36.9	36.33	36.9	0.7	36.89	295	36.9	249	0
21	2017-06-01	00634R	富邦上証反1	929000	187	7829440	8.5	8.5	8.4	8.42	0.09	8.41	25	8.42	290	0
22	2017-06-01	00635U	元大S&P黃金	1060051	224	21160833	19.95	19.99	19.93	19.93	0.06	19.93	130	19.95	68	0
23	2017-06-01	00636	國泰中國A50	1523001	526	25859657	16.9	17.03	16.9	17.03	0.21	17.02	51	17.03	36	0
24	2017-06-01	00637L	元大滬深300正2	80701103	9528	1117662523	13.8	13.94	13.71	13.92	0.23	13.92	678	13.93	484	0
25	2017-06-01	00638R	元大滬深300反1	122000	21	2108030	17.5	17.5	17.24	17.27	0.18	17.26	3	17.27	17	0
26	2017-06-01	00639	富邦深100	17649696	2374	168003424	9.53	9.55	9.46	9.51	0.14	9.51	28	9.52	174	0
27	2017-06-01	00640L	富邦日本正2	1235200	209	24041190	19.42	19.55	19.38	19.48	0.43	19.48	97	19.5	46	0
28	2017-06-01	00641R	富邦日本反1	1015000	165	17058740	16.81	16.85	16.78	16.82	0.18	16.81	13	16.82	96	0
29	2017-06-01	00642U	元大S&P石油	5024650	1134	85795500	17.1	17.1	17.05	17.09	0.14	17.08	65	17.09	314	0
30	2017-06-01	00643	群益深証中小	4798367	834	63736747	13.23	13.37	13.23	13.24	0.11	13.24	42	13.25	1	0
31	2017-06-01	00645	富邦日本	20499	11	411594	20.07	20.14	20.06	20.1	0.17	20.11	1	20.12	13	0
32	2017-06-01	00646	元大S&P500	58000	20	1252470	21.6	21.62	21.55	21.58	0.02	21.55	30	21.58	3	0
33	2017-06-01	00647L	元大S&P500正2	17000	8	437750	25.57	25.82	25.57	25.82	0.12	25.7	50	25.82	45	0
34	2017-06-01	00648R	元大S&P500反1	1404000	492	22090510	15.76	15.76	15.72	15.72	0.04	15.72	324	15.73	1	0
35	2017-06-01	00649	FH香港	128000	10	2336690	18.3	18.3	18.25	18.26	0.03	18.25	50	18.28	1	0
36	2017-06-01	00650	FH香港正2	815000	45	21000000	25.88	25.88	25.65	25.84	0.06	25.84	15	25.88	2	0

將資料匯出成EXCEL檔案

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	日期	證券代號	證券名稱	成交股數	成交筆數	成交金額	開盤價	最高價	最低價	收盤價	漲跌價差	最後揭示買價	最後揭示買量	最後揭示賣價	最後揭示賣量	本益比
2	2017/6/1	0050	元大台灣50	2221692	782	170334430	76.5	76.9	76.5	76.9	0.4	76.8	1	76.9	375	0
3	2017/6/1	0051	元大中型100	23000	13	649050	28.21	28.3	28.2	28.23	0.09	28.23	1	28.28	5	0
4	2017/6/1	0052	富邦科技	75	1	3472	-1	-1	-1	-1	0	46.41	1	46.5	8	0
5	2017/6/1	0053	元大電子	5001	6	168533	33.77	33.77	33.59	33.59	0.09	33.58	50	33.6	3	0
6	2017/6/1	0054	元大台灣50	9000	5	214700	23.87	23.9	23.84	23.84	0.07	23.88	50	23.9	4	0
7	2017/6/1	0055	元大MSCI金融	42250	28	630365	14.91	14.99	14.91	14.91	0.04	14.91	7	14.99	25	0
8	2017/6/1	0056	元大高股息	388248	253	9644676	24.83	24.85	24.83	24.84	0.01	24.84	5	24.85	44	0
9	2017/6/1	0057	富邦摩台	12000	8	546620	45.61	45.64	45.48	45.64	0.08	45.65	20	45.7	3	0
10	2017/6/1	0058	富邦發達	2000	2	87690	44	44	43.69	43.69	0.39	43.67	10	43.98	10	0
11	2017/6/1	0059	富邦金融	2000	2	70630	35.44	35.44	35.19	35.19	0.25	35.04	1	35.34	1	0
12	2017/6/1	0061	元大寶滬深	4044100	942	62862739	15.52	15.57	15.51	15.56	0.09	15.56	4	15.57	77	0
13	2017/6/1	006203	元大MSCI台灣	2000	2	70530	35.27	35.27	35.26	35.26	0	35.3	50	35.62	20	0
14	2017/6/1	006204	永豐臺灣加權	29199	6	1462929	50.15	50.15	50.05	50.05	0.21	50.05	15	50.15	100	0
15	2017/6/1	006205	富邦上証	6415285	1298	175557565	27.24	27.45	27.24	27.43	0.22	27.43	16	27.44	3	0
16	2017/6/1	006206	元大上證50	3438550	455	92869215	27.05	27.09	26.9	27	0.2	27	47	27.01	3	0
17	2017/6/1	006207	FH滬深	2579000	311	52401308	20.25	20.38	20.25	20.38	0.14	20.38	44	20.39	7	0
18	2017/6/1	006208	富邦台50	1344	3	60324	45.1	45.1	45.1	45.1	0	45.01	10	45.14	10	0
19	2017/6/1	00631L	元大台灣50正2	1537050	348	46003475	29.77	29.99	29.77	29.99	0.25	29.99	6	30	111	0
20	2017/6/1	00632R	元大台灣50反1	15795639	1814	231306718	14.67	14.68	14.63	14.63	0.06	14.63	1523	14.64	3599	0
21	2017/6/1	00633L	富邦上証正2	39788902	6426	1459946200	36.55	36.9	36.33	36.9	0.7	36.89	295	36.9	249	0
22	2017/6/1	00634R	富邦上証反1	929000	187	7829440	8.5	8.5	8.4	8.42	0.09	8.41	25	8.42	290	0
23	2017/6/1	00635U	元大S&P黃金	1060051	224	21160833	19.95	19.99	19.93	19.93	0.06	19.93	130	19.95	68	0
24	2017/6/1	00636	國泰中國A50	1523001	526	25859657	16.9	17.03	16.9	17.03	0.21	17.02	51	17.03	36	0
25	2017/6/1	00637L	元大滬深300正2	80701103	9528	1117662523	13.8	13.94	13.71	13.92	0.23	13.92	678	13.93	484	0
26	2017/6/1	00638R	元大滬深300反1	122000	21	2108030	17.5	17.5	17.24	17.27	0.18	17.26	3	17.27	17	0
27	2017/6/1	00639	富邦深100	17649696	2374	168003424	9.53	9.55	9.46	9.51	0.14	9.51	28	9.52	174	0
28	2017/6/1	00640L	富邦日本正2	1235200	209	24041190	19.42	19.55	19.38	19.48	0.43	19.48	97	19.5	46	0
29	2017/6/1	00641R	富邦日本反1	1015000	165	17058740	16.81	16.85	16.78	16.82	0.18	16.81	13	16.82	96	0
30	2017/6/1	00642U	元大S&P石油	5024650	1134	85795500	17.1	17.1	17.05	17.09	0.14	17.08	65	17.09	314	0
31	2017/6/1	00643	群益深証中小	4798367	834	63736747	13.23	13.37	13.23	13.24	0.11	13.24	42	13.25	1	0
32	2017/6/1	00645	富邦日本	20499	11	411594	20.07	20.14	20.06	20.1	0.17	20.11	1	20.12	13	0
33	2017/6/1	00646	元大S&P500	58000	20	1252470	21.6	21.62	21.55	21.58	0.02	21.55	30	21.58	3	0
34	2017/6/1	00647L	元大S&P500正2	17000	8	437750	25.57	25.82	25.57	25.82	0.12	25.7	50	25.82	45	0
35	2017/6/1	00648R	元大S&P500反1	1404000	492	22090510	15.76	15.76	15.72	15.72	0.04	15.72	324	15.73	1	0
36	2017/6/1	00649	FH香港	128000	10	2336690	18.3	18.3	18.25	18.26	0.03	18.25	50	18.28	1	0
37	2017/6/1	00650L	FH香港正2	815000	46	21037090	25.88	25.88	25.65	25.84	0.06	25.84	16	25.88	2	0

更改標題與代號

開始作圖

日期	成交金額
2017/6/1	6096.361694
2017/6/2	4845.442265
2017/6/3	320.348914
2017/6/5	4746.962354
2017/6/6	3243.804586
2017/6/7	7342.424736
2017/6/8	4599.496993
2017/6/9	7505.851237
2017/6/12	13135.04655
2017/6/13	10381.56751
2017/6/14	8113.132831
2017/6/15	4046.560581
2017/6/16	6902.455266
2017/6/19	3712.290873
2017/6/20	6229.988043
2017/6/21	9793.828804
2017/6/22	5674.049232
2017/6/23	8627.393668

Main titles

Chart title abc 台積電-每日交易金額

Chart subtitle abc 代號:2330

Y axis title abc Values

EXPORT

HTML JSON SVG Plugins

```

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<script>
(function(){ var files =
["https://code.highcharts.com/stock/highstock.js", "https://code.highcharts.com/highcharts-more.js", "https://code.highcharts.com/highcharts-3d.js", "https://code.highcharts.com/modules/data.js", "https://code.highcharts.com/modules/exporting.js", "http://code.highcharts.com/modules/ funnel.js", "http://code.highcharts.com/modules/solid-gauge.js"], loaded = 0; if (typeof window["HighchartsEditor"] === "undefined") {window.HighchartsEditor = {ondone: [cl], hasWrapped: false, hasLoaded: false}; include(files[0]); } else {if (window.HighchartsEditor.hasLoaded) {cl();} else {window.HighchartsEditor.ondone.push(cl);}}function

```

DOWNLOAD

X軸與Y軸細部調整

X axis title "Lucida Grande", "Lucida Sans Unicode", Vardana, Arial, Helvetica, sans-serif

18 B I

Text abc 交易金額(百萬)

Type linear

Opposite side of chart

Reversed direction

Axis labels format {value}

Y-Axis

Y axis title style "Lucida Grande", "Lucida Sans Unicode", Vardana, Arial, Helvetica, sans-serif

18 B I

Type linear

Opposite side of chart

Reversed direction

Axis labels format abc {value}

將整理好的資料放進HIGHCHARTS

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大盤統計資訊

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```
3 - <head>
4 - <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
5 - <title></title>
6 - <meta name="keywords" content="" />
7 - <meta name="description" content="" />
8 - <link href="http://fonts.googleapis.com/css?
family=Source+Sans+Pro:200,300,400,600,700,900|Quicksand:400,700|Questrial" rel="stylesheet" />
9 - <link href="default.css" rel="stylesheet" type="text/css" media="all" />
10 - <link href="fonts.css" rel="stylesheet" type="text/css" media="all" />
11
12
13 </head>
14 <body>
15 <div id="header-wrapper">
16 <div id="header" class="container">
17 <div id="logo">
18 <h1><span class="icon icon-cog"></span><a href="index.html">這是股票你懂的</a></h1>
19 <div id="menu">
20 <ul>
21 <li class="current_page_item"><a href="index.html" accesskey="1" title="">首頁</a></li>
22 <li><a href="index2.php" accesskey="2" title="">其他資料</a></li>
23 <li><a href="index3.php" accesskey="3" title="">關於我們</a></li>
24 <li><a href="index4.php" accesskey="4" title="">相關網站</a></li>
25 <li><a href="index5.php" accesskey="5" title="">聯絡我們</a></li>
26 </ul>
27 </div>
28 </div>
29 </div>
30 </div>
31 <div id="page-wrapper">
32 <div id="page" class="container">
33 <div class="title">
34 <h2></h2>
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36 <p></p>
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38 </div>
39 <div class="wrapper">
40 <div id="three-column" class="container">
41 <div><span class="arrow-down"></span></div>
42 <div id="tbody1">
43 <div class="title">
44 <h2>大盤統計資訊</h2>
45 </div>
46 <p></p>
47 <a href="#" class="button">更多</a> </div>
48 <div id="tbody2">
49 <div class="title">
50 <h2>更多相關資訊</h2>
51 </div>
52 <p></p>
53 <a href="#" class="button">更多</a> </div>
54 <div id="tbody3">
55 <div class="title">
```

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結論

- 完成大數據爬蟲
- 完成資料處理與分析圖
- 完成網頁呈現

未來期望

- JSON、DJANGO
- AI大數據分析
- AI判斷預期投資功能
- 加入模擬投資

謝謝聆聽