

报告主要写在“实验报告.pdf”中，此文件展示实验过程及调试经历

```
In[*]:= data = Import["C:/Users/predator/Documents/test2.csv"]
```

└─导入    └─常量

Out[\*]=

{ { , , name, 广州米兰小筑公寓, 美朵精品公寓 (广州南站店), 帕菲商旅公寓 (广州南站店), 广州南站精品公寓, 广州阿米果主题公寓, 广州楠栖小筑公寓, 丽柏臻品公寓 (广州南站店), 柏曼酒店 (广州番禺政务中心君御店), 柏霖公寓 (广州南站店), 美丽豪酒店 (广州番禺店), ... 1124 ... , 广州金湾商务酒店, 广州大学城北亭缤果公寓, 大坊阁酒店公寓 (广州市桥店), 梦幻主题公寓 (广州钟村店), 广州漫步天下公寓 (蝴蝶亭分店), 广州涵香居快捷公寓, 广州有家民宿 (日章陈公祠分店), 盒子空间馆 (广州新天地二号馆), 广州长隆鑫琳小居公寓, 广州几何の家公寓, 格林豪泰 (广州番禺广场店), 宜尚酒店 (广州番禺长隆万达广场万博地铁站店), 华意宾馆 }, { ... 30 ... }, { ... 1 ... } }

大型输出    显示更少    显示更多    显示全部    设定大小限制...

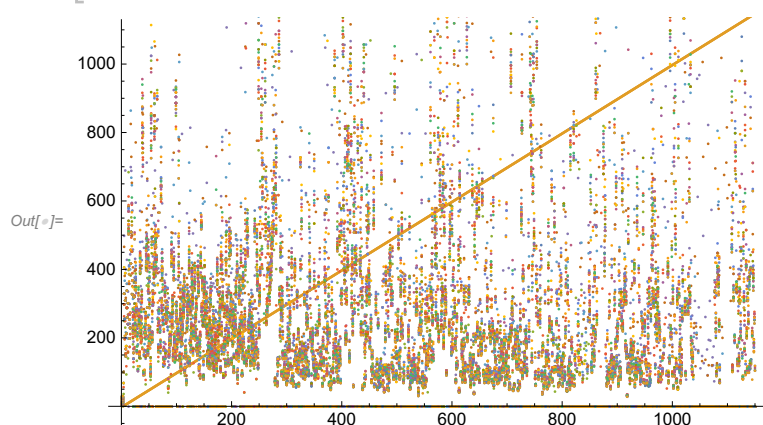
```
In[*]:= Grid[data]
```

└─格子

		name	广州米兰小筑公寓	美朵精品公寓 (广州南站店)	帕菲商旅公寓 (广州南站店)	广州南站
	date		1	2	3	
1	2020/12/29	0	36	249	196	2
2	2020/12/30	1	56	263	196	2
3	2020/12/31	2	68	498	100 000	6
4	2021/1/1	3	68	466	381	3
5	2021/1/2	4	68	406	367	3
6	2021/1/3	5	68	406	255	3
7	2021/1/4	6	100	298	255	3
8	2021/1/5	7	100	298	255	3
9	2021/1/6	8	100	298	255	3
10	2021/1/7	9	100	298	255	3
11	2021/1/8	10	100	298	255	3
12	2021/1/9	11	100	298	255	3
13	2021/1/10	12	100	298	255	3
14	2021/1/11	13	100	298	255	3
15	2021/1/12	14	100	298	255	3
16	2021/1/13	15	100	298	255	3
17	2021/1/14	16	100	298	255	3
18	2021/1/15	17	100	329	255	3
19	2021/1/16	18	100	329	255	3
20	2021/1/17	19	100	329	255	3
21	2021/1/18	20	100	329	255	3
22	2021/1/19	21	100	329	255	3
23	2021/1/20	22	100	329	255	3
24	2021/1/21	23	100	329	255	3
25	2021/1/22	24	100	329	255	3
26	2021/1/23	25	100	329	255	3
27	2021/1/24	26	100	329	255	3
28	2021/1/25	27	100	329	255	3
29	2021/1/26	28	100	329	255	3
30	2021/1/27	29	100	329	206	3

```
In[ ]:= ListPlot[data]
```

绘制点集



尝试绘制单酒店的价格曲线

```
In[ ]:= data2 = data[[3 ;; 32, 3 ;; 4]]
```

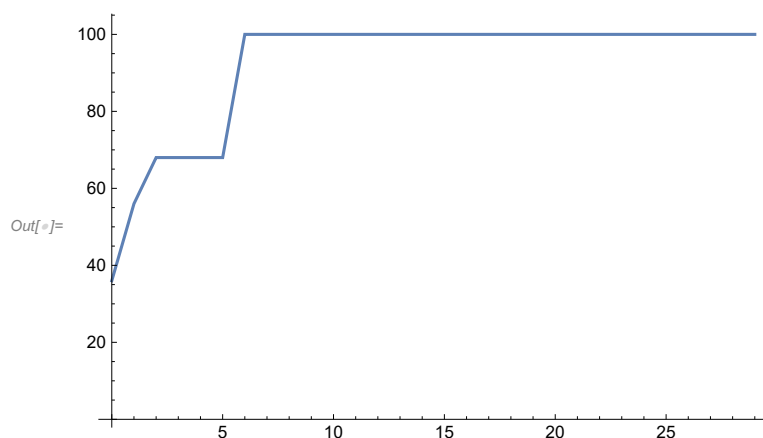
```
Out[ ]:= {{0, 36}, {1, 56}, {2, 68}, {3, 68}, {4, 68}, {5, 68}, {6, 100}, {7, 100}, {8, 100},
          {9, 100}, {10, 100}, {11, 100}, {12, 100}, {13, 100}, {14, 100}, {15, 100},
          {16, 100}, {17, 100}, {18, 100}, {19, 100}, {20, 100}, {21, 100}, {22, 100},
          {23, 100}, {24, 100}, {25, 100}, {26, 100}, {27, 100}, {28, 100}, {29, 100}}
```

```
In[ ]:= ListLinePlot[data2, AxesLabel -> Automatic]
```

绘制点集的线条

坐标轴标签

自动



数据尝试统计平均值及长度

```
In[ ]:= data1 = data[[3 ;; 32, 3 ;; 4]]
```

```
Out[ ]:= {{0, 36}, {1, 56}, {2, 68}, {3, 68}, {4, 68}, {5, 68}, {6, 100}, {7, 100}, {8, 100},
          {9, 100}, {10, 100}, {11, 100}, {12, 100}, {13, 100}, {14, 100}, {15, 100},
          {16, 100}, {17, 100}, {18, 100}, {19, 100}, {20, 100}, {21, 100}, {22, 100},
          {23, 100}, {24, 100}, {25, 100}, {26, 100}, {27, 100}, {28, 100}, {29, 100}}
```

```
ln[•]:= N[Mean[data1]]
```

平均值

`Out[•]= {14.5, 92.1333}`

```
In[•]:= data2 = data[[3 ;; 3, 4 ;;]]
```

```
Out[j]= { 36, 249, 196, 230, 151, 93, 286, 260, 140, 398, 268, 173, 211, 382, 552, 328, 389, 181,
115, 319, 167, 206, 220, 271, 133, 175, 103, 277, 243, 117, 390, 140, 184, 228, 172,
754, 99, 147, 91, 233, 64, 420, 353, 375, 176, 266, 168, 222, 216, 77, 1010, 404, 209,
297, 496, 328, 850, 353, 379, 429, 432, 924, 222, 131, 237, 170, 234, 155, 641, 316,
371, 257, 136, 187, 124, 323, 141, 242, 308, 100000, 100000, 40, 147, 72, 233, 193,
92, 218, 251, 230, 135, 412, 186, 155, 135, 849, 282, 135, 248, 211, 354, 214, 148,
314, 96, 137, 179, 183, 294, 141, 317, 89, 111, 177, 62, 222, 267, 135, 289, 415, 183,
223, 182, 202, 393, 265, 211, 99, 168, 232, 192, 235, 286, 166, 174, 388, 331, 90,
175, 88, 376, 523, 287, 404, 289, 90, 256, 301, 147, 277, 297, 227, 131, 219, 147,
135, 303, 127, 323, 167, 123, 137, 109, 146, 88, 161, 186, 193, 115, 117, 403, 207,
138, 277, 213, 263, 114, 407, 209, 100000, 100000, 93, 153, 270, 88, 91, 501, 195,
284, 149, 137, 135, 549, 266, 475, 231, 141, 268, 249, 181, 101, 248, 222, 229, 376,
99, 394, 66, 178, 154, 339, 183, 173, 251, 246, 93, 179, 407, 185, 40, 156, 383, 1200,
140, 532, 363, 249, 159, 224, 264, 104, 198, 256, 137, 174, 189, 153, 110, 310, 150,
152, 79, 387, 338, 108, 748, 204, 302, 455, 1510, 850, 468, 402, 3397, 2317, 244,
2218, 888, 688, 238, 268, 268, 328, 328, 298, 298, 339, 359, 368, 418, 468, 483, 498,
457, 1663, 62, 739, 401, 5406, 62, 115, 617, 1028, 145, 201, 190, 281, 105, 233, 159,
92, 93, 124, 146, 104, 80, 67, 98, 173, 93, 176, 185, 212, 108, 71, 404, 166, 71, 96,
178, 123, 379, 155, 56, 129, 334, 144, 225, 59, 138, 160, 372, 90, 402, 132, 137, 109,
119, 316, 88, 88, 138, 224, 92, 231, 105, 100, 423, 346, 198, 271, 64, 172, 212, 138,
106, 345, 102, 91, 238, 164, 100000, 100000, 88, 360, 271, 126, 110, 147, 174, 83,
60, 137, 139, 79, 378, 310, 213, 136, 104, 198, 156, 433, 61, 118, 68, 48, 101, 247,
1493, 100, 130, 75, 1021, 163, 198, 133, 117, 361, 72, 138, 126, 443, 159, 78, 313,
301, 2644, 1097, 578, 487, 338, 405, 203, 192, 411, 423, 458, 736, 2686, 132, 545,
995, 649, 353, 414, 249, 60, 589, 311, 433, 100000, 100000, 100000, 100000, 100000,
100000, 100000, 100000, 307, 410, 237, 467, 319, 57, 212, 932, 61, 142, 87, 196, 267,
365, 192, 525, 365, 340, 190, 1069, 249, 73, 153, 100, 1432, 528, 60, 87, 80, 314,
99, 102, 49, 257, 72, 63, 110, 70, 116, 670, 102, 59, 70, 107, 50, 119, 196, 335, 106,
112, 51, 218, 53, 78, 352, 442, 972, 336, 113, 320, 103, 84, 81, 935, 197, 144, 83,
146, 192, 265, 377, 124, 86, 86, 348, 208, 551, 220, 110, 69, 86, 182, 171, 100000,
100000, 100000, 100000, 99, 203, 149, 251, 62, 73, 101, 92, 77, 92, 87, 89, 95, 80,
121, 270, 286, 78, 94, 35, 111, 83, 220, 170, 243, 1012, 82, 57, 53, 63, 74, 64, 241,
75, 143, 315, 41, 169, 254, 109, 211, 741, 331, 136, 309, 255, 136, 1888, 741, 507,
442, 227, 477, 8975, 237, 1229, 218, 3411, 426, 553, 251, 230, 292, 408, 679, 206, 518,
248, 322, 231, 104, 1107, 1157, 1558, 2244, 223, 454, 538, 10090, 212, 585, 100000,
100000, 100000, 100000, 185, 79, 163, 246, 133, 826, 455, 44, 569, 338, 90,
225, 187, 74, 100, 96, 216, 186, 82, 227, 1590, 1100, 196, 114, 238, 325, 90, 121, 61,
98, 88, 588, 91, 146, 36, 454, 87, 199, 126, 597, 235, 107, 109, 559, 76, 212, 201,
157, 164, 612, 555, 99, 203, 77, 90, 87, 84, 87, 199, 133, 77, 80, 92, 80, 185, 312,
497, 73, 232, 667, 52, 170, 161, 142, 87, 99, 220, 73, 87, 79, 110, 112, 223, 167, 82,
86, 100000, 118, 100, 180, 65, 87, 133, 150, 91, 112, 100, 148, 55, 64, 198, 1036,
233, 281, 99, 49, 174, 63, 152, 182, 223, 128, 111, 201, 68, 118, 164, 60, 255, 135,
582, 810, 101, 380, 183, 126, 159, 112, 182, 197, 94, 1683, 2975, 404, 311, 1210,
815, 817, 732, 156, 348, 218, 1030, 512, 1345, 86, 62, 271, 1066, 301, 239, 85, 160,
1731, 230, 3157, 317, 73, 35, 186, 116, 57, 86, 69, 75, 142, 139, 57, 131, 420, 62,
224, 82, 80, 305, 192, 74, 74, 195, 59, 533, 43, 105, 180, 200, 130, 111, 59, 146, 64,
79, 114, 354, 120, 89, 60, 132, 592, 89, 84, 201, 234, 46, 44, 352, 98, 74, 125, 64,
691, 91, 187, 81, 61, 1571, 719, 64, 147, 107, 317, 820, 102, 160, 234, 121, 693, 99,
166, 143, 340, 
```





## 全部数据按天平均值统计

```

In[ ]:= ave = {};
For[i = 3, i ≤ 32, i++,
  Flatten[data[[i ;; i, 4 ;;]]];
  temp1 = Flatten[data[[i ;; i, 4 ;;]]];
  temp2 = DeleteCases[temp1, -1];
  temp3 = DeleteCases[temp2, 100 000];
  tempmean = Mean[temp3];
  AppendTo[ave, tempmean]
]

```

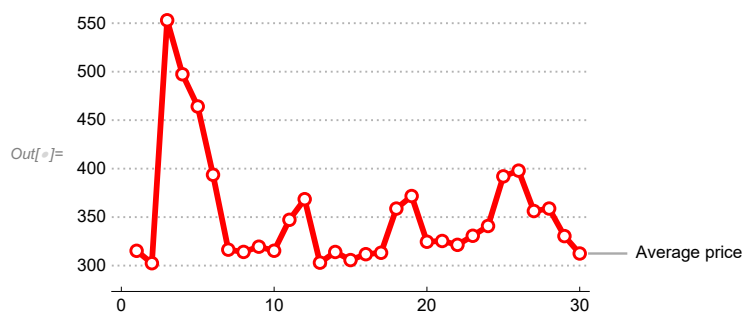
In[ ]:= ave

Out[ ]:= {  $\frac{258823}{821}, \frac{248923}{823}, \frac{381032}{689}, \frac{370019}{744}, \frac{369890}{797}, \frac{153144}{389}, \frac{129422}{409}, \frac{255049}{812}, \frac{263265}{824}, \frac{85452}{271},$   
 $\frac{69793}{201}, \frac{290006}{787}, \frac{60304}{199}, \frac{246528}{785}, \frac{242727}{794}, \frac{248475}{797}, \frac{124039}{396}, \frac{284171}{792}, \frac{297028}{799}, \frac{247993}{764},$   
 $\frac{259011}{796}, \frac{83243}{259}, \frac{256667}{776}, \frac{131569}{386}, \frac{293237}{748}, \frac{309203}{777}, \frac{68047}{191}, \frac{280254}{781}, \frac{83925}{254}, \frac{239042}{765}$  }

```

In[ ]:= ListLinePlot[ave, PlotStyle → RGBColor[1., 0, 0],
  PlotTheme → "Business", PlotLabels → "Average price"]

```

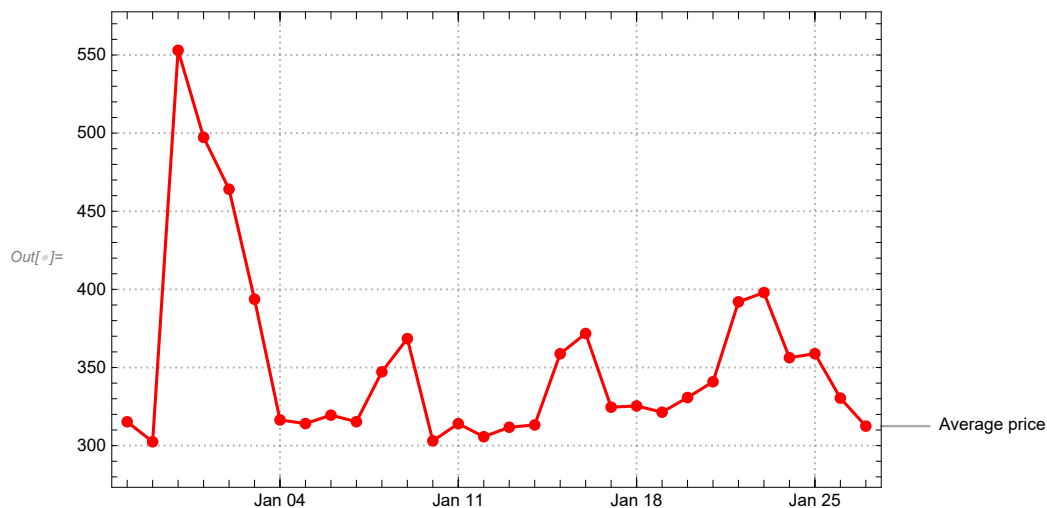


## 加上日期

```

In[ ]:= DateListPlot[ave, {2020, 12, 29}], PlotStyle -> RGBColor[1., 0, 0],
[日期列表图] [绘图样式] [RGB颜色]
PlotTheme -> "Detailed", PlotLabels -> "Average price",
[绘图主题] [数据绘制标签]
PlotMarkers -> Automatic, Axes -> {True, True}, AxesLabel -> {"date", "price"}]
[绘制点的标记] [自动] [坐标轴] [真] [真] [坐标轴标签]

```



## 加上标题

```

In[ ]:= Show[%45, PlotLabel -> HoldForm[Panyu's hotel average price around Jan],
[显示] [绘图标签] [保持表达式]
LabelStyle -> {GrayLevel[0]}]
[标签样式] [灰度级]

```

