

P#5 Seoul House Price

by Visualize

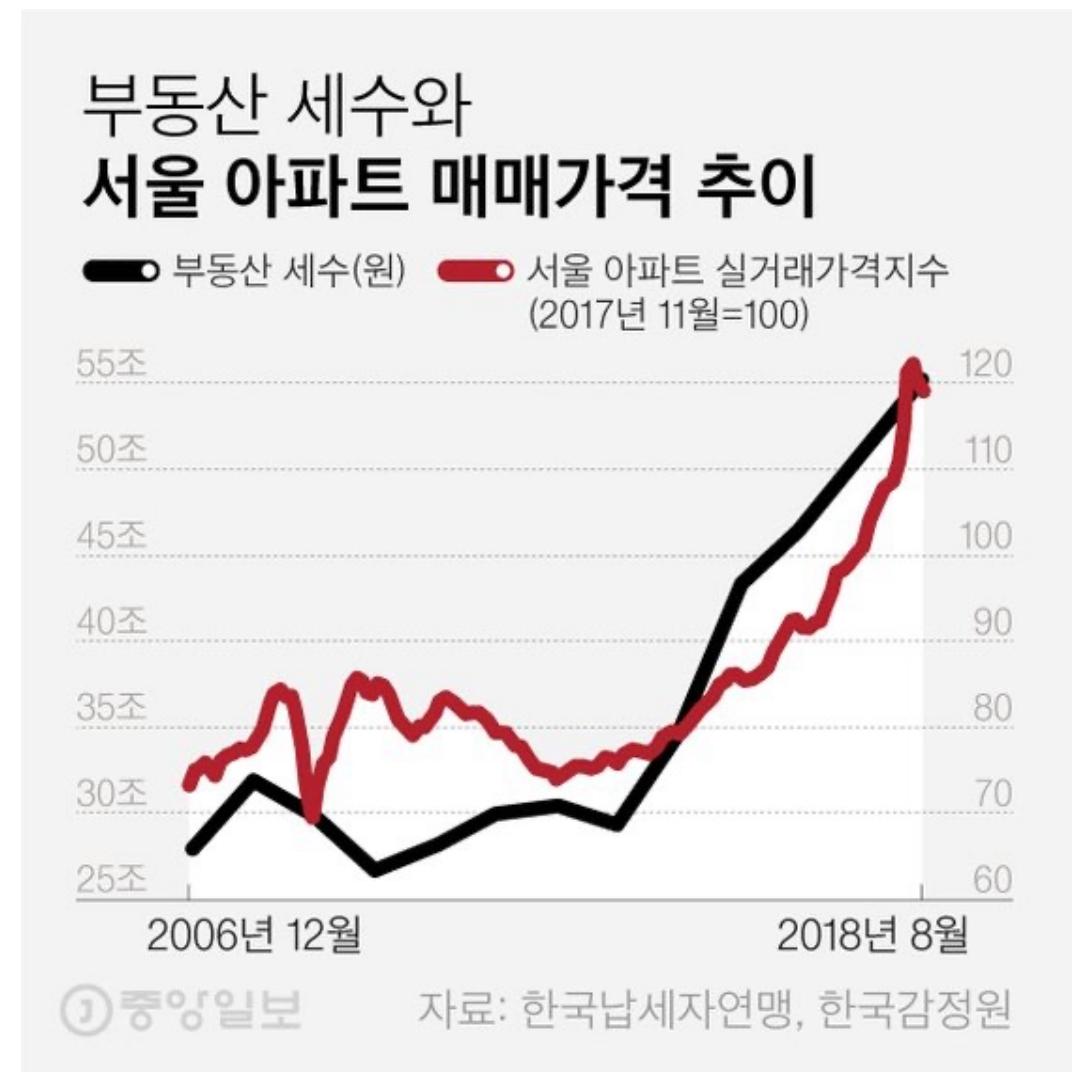
20201127 이창현

Idea

South Korea

has seen a dramatic increase in apartment prices.

It would be nice to show this visually.



SOURCE : 시사위크 / THE FACT

Process

Get the price value from the CSV
corresponding to the position of each circle in the array

Size the circles according to the price
(set a new maximum and minimum for the circles)

Update the date every time the frame changes

Show the name of the circle when hovering over it

data from <https://gist.github.com/pjt3591oo/efaa02ff73538dd2f51f6caae939f836>

A screenshot of a web browser displaying a GitHub Gist page. The URL in the address bar is <https://gist.github.com/pjt3591oo/efaa02ff73538dd2f51f6caae939f836>. The page title is "GitHub Gist". The main content is a JSON file named "sigungu.json" which contains the following data:

```
1 {  
2     "서울특별시/강남구": {  
3         "lat": "37.4951",  
4         "long": "127.06278"  
5     },  
6     "서울특별시/강동구": {  
7         "lat": "37.55274",  
8         "long": "127.14546"  
9     },  
10    "서울특별시/강북구": {  
11        "lat": "37.6349",  
12        "long": "127.02015"  
13    },  
14    "서울특별시/강서구": {  
15        "lat": "37.56227",  
16        "long": "126.81622"  
17    },  
18    "서울특별시/관악구": {  
19        "lat": "37.47876",  
20        "long": "126.95235"  
21}
```

convert to array

(Get help from GPT)

data from <https://m.blog.naver.com/pandasch/222604168309>

Microsoft Excel 파일 편집 보기 삽입 서식 도구 데이터 창 도움말

seoul_house

1

구분	강남구	강동구	강북구	강서구	관악구	광진구	구로구	금천구	노원구	도봉구	동대문구	동작구	마포구	서대문구	서초구	성동구	성북구	양천구	영등포구	용산구	은평구	종로구	종량구			
2008.4.7	80.3	79.7	87.4	84.2	81.3	82.9	79.6	82.1	84.5	86.5	79.0	79.0	75.4	78.3	79.4	78.8	78.4	84.0	87.4	74.2	85.5	86.7	83.1	84.9	82.7	
2008.4.14	80.4	79.7	87.7	84.3	81.4	82.9	79.9	82.2	85.1	87.2	79.1	79.1	75.4	78.4	79.4	78.8	78.7	84.1	82.6	74.5	85.5	86.9	83.2	84.9	83.2	
2008.4.21	80.4	79.7	88.1	84.5	81.4	83.1	80.1	82.9	85.6	87.8	79.4	79.2	75.5	78.6	79.4	78.9	79.0	83.9	82.6	74.6	85.5	87.1	83.2	85.1	84.0	
2008.4.28	80.5	79.6	88.3	84.7	81.6	83.2	80.2	83.3	86.1	88.1	79.4	79.2	75.6	78.8	79.4	79.0	79.1	83.9	82.6	74.7	85.6	87.3	83.2	85.2	84.6	
2008.5.5	80.5	79.6	88.7	85.1	81.8	83.2	80.6	83.5	86.6	88.3	79.6	79.3	75.7	79.0	79.4	79.0	79.9	83.5	82.6	74.8	85.6	87.6	83.2	85.3	84.8	
2008.5.12	80.5	79.5	89.3	85.4	82.0	83.2	80.8	83.8	86.8	88.6	79.8	79.5	75.8	79.4	79.4	79.0	79.6	83.6	82.6	74.9	85.7	87.9	83.2	85.3	85.3	
2008.5.19	80.5	79.2	89.4	85.7	82.3	83.3	80.9	84.3	87.0	87.0	79.6	79.3	75.8	79.6	79.4	79.0	79.9	83.5	82.6	74.9	85.7	87.9	83.2	85.3	85.7	
2008.5.26	80.4	78.9	89.8	85.9	82.4	83.3	81.0	84.5	87.3	88.9	79.9	79.6	75.9	79.7	79.4	79.0	80.2	83.4	82.6	75.0	85.8	88.0	83.2	85.3	86.1	
2008.6.2	80.3	78.8	90.1	86.2	82.5	83.3	81.1	84.8	87.4	87.4	80.1	79.6	76.1	79.9	79.4	79.0	80.5	83.2	82.6	75.1	85.9	88.3	83.3	85.3	86.3	
2008.6.9	80.3	78.6	90.4	86.2	82.7	83.3	81.2	85.1	87.6	89.3	80.2	79.7	76.1	80.2	79.3	79.0	80.6	83.3	82.7	75.3	85.9	88.5	83.4	85.3	86.4	
2008.6.16	80.3	78.6	90.4	86.4	82.7	83.3	81.3	85.3	87.8	89.4	80.2	79.7	76.2	80.4	79.3	79.0	80.7	83.1	82.7	75.3	86.0	88.8	83.6	85.3	86.5	
2008.6.23	80.2	78.5	90.7	86.5	82.8	83.3	81.4	85.4	87.9	89.6	80.3	79.7	76.3	80.6	79.3	79.1	80.8	83.0	82.8	75.4	86.1	89.2	83.7	85.4	86.6	
2008.6.30	80.1	78.5	90.8	86.6	82.9	83.3	81.4	85.7	88.1	89.6	80.4	79.7	76.4	80.7	79.3	79.1	81.0	83.0	82.8	75.4	86.1	89.3	84.0	85.3	86.8	
2008.7.7	80.0	78.4	90.9	86.6	82.9	83.3	81.5	85.8	88.1	89.7	80.5	79.8	76.5	80.8	79.2	79.1	81.2	82.9	82.7	75.5	85.2	89.4	84.2	85.3	86.9	
2008.7.14	80.0	78.3	90.9	86.7	82.9	83.3	81.7	86.1	88.2	89.7	80.8	79.8	76.5	80.9	79.1	79.1	81.4	82.9	82.7	75.5	85.2	89.5	84.6	85.3	87.0	
2008.7.21	79.9	78.3	91.0	86.7	83.0	83.3	81.8	86.2	88.3	89.8	80.8	79.8	76.6	81.0	79.1	79.1	81.4	82.7	82.6	75.5	86.3	89.5	84.6	85.3	87.0	
2008.7.28	79.8	78.2	91.0	86.7	83.0	83.3	81.9	86.3	88.3	89.8	80.8	79.8	76.6	81.0	79.1	79.1	81.6	82.7	82.4	75.6	86.3	89.5	84.7	85.3	87.1	
2008.8.4	79.8	78.2	91.0	86.7	83.0	83.3	81.9	86.4	88.3	89.8	80.8	79.8	76.6	81.0	79.1	79.1	81.6	82.6	82.4	75.6	86.3	89.6	84.9	85.3	87.2	
2008.8.11	79.7	78.1	91.0	86.8	83.0	83.4	81.9	86.4	88.2	89.9	80.8	79.8	76.7	81.1	79.0	79.1	81.6	82.5	82.3	75.6	86.3	89.7	85.0	85.3	87.2	
2008.8.18	79.6	78.1	91.0	86.8	83.1	83.4	81.9	86.5	88.2	89.9	80.8	79.8	76.7	81.2	78.9	79.1	81.6	82.4	82.2	75.6	86.4	89.8	85.0	85.3	87.2	
2008.8.25	79.6	78.1	91.0	86.9	83.1	83.4	81.9	86.7	88.2	89.9	81.0	79.8	76.8	81.2	78.9	79.1	81.7	82.4	82.2	75.6	86.4	89.9	85.1	85.3	87.3	
2008.9.1	79.5	77.9	91.0	86.9	83.1	83.4	82.0	86.8	88.2	90.0	81.1	79.9	76.8	81.2	78.9	79.1	81.7	82.3	82.1	75.6	86.4	90.0	85.2	85.3	87.4	
2008.9.8	79.5	77.9	91.0	87.0	83.0	83.4	82.1	87.0	88.2	90.0	81.1	79.9	76.8	81.2	78.8	79.1	81.7	82.2	82.0	75.5	86.5	90.2	85.2	85.3	87.4	
2008.9.15	79.4	77.7	91.1	87.0	83.1	83.4	82.2	87.0	88.2	90.0	81.1	79.9	76.8	81.2	78.8	79.1	81.7	82.2	82.1	75.5	86.5	90.2	85.2	85.3	87.4	
2008.9.22	79.3	77.6	91.1	87.0	83.2	83.3	82.2	87.2	88.2	90.0	81.1	79.9	76.7	81.2	78.7	79.1	81.7	82.2	81.9	75.5	86.6	90.4	85.2	85.3	87.4	
2008.9.29	79.3	77.5	91.1	87.0	83.2	83.3	82.3	87.2	88.2	89.9	81.1	79.9	76.7	81.2	78.7	79.1	81.7	82.0	81.8	75.6	86.6	90.4	85.2	85.2	87.4	
2008.10.6	79.0	77.2	91.1	87.1	83.2	83.3	82.2	87.3	88.2	90.0	81.1	79.9	76.4	81.1	78.6	79.1	81.7	81.6	81.6	75.6	86.6	90.4	85.3	85.2	87.4	
2008.10.13	78.6	76.6	91.1	87.1	83.2	83.2	82.2	87.7	88.2	89.9	81.1	79.9	76.3	81.2	78.1	79.1	81.7	82.2	82.0	75.6	86.6	90.4	85.3	85.1	87.4	
2008.10.20	77.8	76.4	91.1	87.0	83.2	83.2	82.2	87.7	88.1	89.9	81.1	79.9	76.1	81.2	77.9	79.1	81.7	80.9	81.1	75.5	86.3	90.4	85.3	85.0	87.3	
2008.10.27	77.3	75.8	91.0	87.0	83.2	83.2	82.2	87.7	87.9	89.6	81.1	79.9	76.0	81.0	77.4	79.0	81.6	80.5	80.7	75.5	86.1	90.4	85.4	84.6	87.3	
2008.11.3	77.1	75.3	91.0	86.8	83.2	83.2	82.2	87.7	87.8	89.6	81.1	79.8	75.8	81.0	76.9	79.0	81.6	80.0	80.0	75.5	86.0	90.0	85.3	84.6	87.3	
2008.11.10	76.9	75.1	91.0	86.7	83.2	83.2	82.1	87.7	87.6	89.4	81.1	79.8	75.8	80.9	76.6	79.0	81.4	79.4	79.7	75.5	85.9	90.0	85.3	84.6	87.3	
2008.11.17	76.3	74.7	91.0	86.6	83.2	83.1	81.8	86.7	87.3	89.1	81.1	79.8	75.7	80.9	76.2	78.8	81.4	79.1	79.3	75.4	85.6	90.0	85.3	84.6	87.3	
2008.11.24	75.9	74.0	90.7	86.3	83.1	83.1	81.6	86.7	87.9	88.9	81.1	79.6	75.5	80.9	75.8	78.8	81.3	78.8	79.0	75.4	85.4	89.9	85.2	84.6	87.2	
2008.12.1	75.3	73.4	90.7	86.2	82.8	83.1	81.8	86.7	86.7	88.8	81.0	79.5	75.2	80.8	75.4	78.6	81.2	78.3	78.9	75.4	85.0	88.9	85.2	84.6	87.2	
2008.12.8	74.5	72.9	89.6	85.9	82.7	80.4	81.7	87.5	86.4	88.7	81.0	79.0	75.0	80.8	74.8	78.4	81.0	77.7	78.6	75.2	84.7	89.7	85.1	84.3	86.9	
2008.12.15	73.9	72.4	89.4	86.0	82.3	79.4	81.7	87.4	86.2	88.4	80.7	78.7	74.5	80.6	74.5	78.3	80.9	77.4	78.0	75.0	84.1	89.6	85.0	83.9	86.9	
2008.12.22	73.4	72.2	89.4	85.5	82.1	79.1	81.5	87.4	86.6	88.3	80.6	78.4	74.2	80.5	74.1	78.2	80.8	75.8	77.8	75.0	83.7	89.6	84.9	83.9	86.9	
2008.12.29	72.9	72.2	89.4	85.4	82.0	78.9	81.4	87.3	85.5	88.2	80.5	77.9	74.0	80.5	73.8	78.1	80.3	75.4	77.5	74.7	83.7	89.5	84.9	83.5	86.9	
2009.1.5	72.8	72.2	89.2	85.3	82.0	78.8	81.3	87.2	85.5	88.1	80.5	77.7	74.0	80.5	73.4	78.1	80.2	75.4	77.1	74.6	83.6	89.4	84.9	83.3	86.9	
2009.1.12	72.9	72.6	89.1	85.3	81.9	87.8	81.8	86.7	87.2	85.5	87.9	80.5	77.5	73.8	80.5	73.1	78.0	80.2	75.4	77.0	74.6	83.2	89.4	84.9	83.3	86.8
2009.1.19	73.0	72.8	88.8	85.2	81.8	78.8	81.1	87.0	85.2	87.5	80.5	77.3	73.7	80.5	72.9	77.9	79.5	77.0	78.6	75.2	84.7	89.7	85.1	84.3	86.8	
2009.2.2	73.3	72.9	88.8	85.2	81.8	78.8	81.1	87.0	85.2	87.5	80.5	77.3	73.7	80.5	72.9	77.9	79.5	77.0	78.6	75.2	84.7	89.7	85.1	84.3	86.9	
2009.2.9	73.3	73.0	88.7	85.1	81.7	78.6	81.0	86.9	84.3	87.5	80.2	77.0	73.6	80.3	72.7	77.7	79.9	77.5	78.6	75.0	83.7	89.6	84.9	83.7	86.6	
2009.2.16	73.5	73.2																								

Code

```
void setup() {
    size(800, 800);

    koreanFont = createFont("NanumGothic", 16);
    textFont(koreanFont);

    table = loadTable("seoul_house.csv", "header");

    mapImage = loadImage("seoul_map.jpg");
    mapImage.resize(780, 810);
    background(242);
    image(mapImage, 50, -20);

    // 최소 및 최대 가격을 초기화합니다.
    minPrice = 70.6;
    maxPrice = 152.4;

    // 최소 및 최대 원 크기를 초기화합니다.
    minSize = 5;
    maxSize = 100;

    //circleSizes = new float[locationData.length];
    //ranks = new int[locationData.length];

    //for (int i = 0; i < circleSizes.length; i++) {
    //    circleSizes[i] = random(1, 25);
    //    ranks[i] = getSizeRank(circleSizes[i]);
    //}
}

void draw() {
    background(242);
    image(mapImage, 50, -20);

    // 현재 날짜를 왼쪽 상단에 출력
    fill(0);
    textSize(20);
    textAlign(LEFT, TOP);
    text("DAY: " + table.getString(currentDay, 0), 10, 10);

    // 각 원 크기 층
    for (int i = 0; i < locationData.length; i++) {
        float lat = float(locationData[i][1]);
        float lon = float(locationData[i][2]);
        float x = map(lon, 126.7, 127.2, 0, width);
        float y = map(lat, 37.4, 37.7, height, 0);

        String name = locationData[i][0]; // 현재 구의 이름
        int price = getHousePrice(name);

        // 집 가격에 따라 원의 크기 계산
        float circleSize = map(price, minPrice, maxPrice, minSize, maxSize);
        int alpha = int(map(circleSize, minSize, maxSize, 0, 255)); // 원 크기에 따라 alpha 계산

        if (dist(x, y, mouseX, mouseY) < circleSize / 2) {
            hoverLocation = name;
        }

        noStroke();
        fill(0, 0, 255, alpha); // 파란색으로 채우기
        ellipse(x, y, circleSize, circleSize); // 원 그리기
    }
}
```

Code

```
122 // 마우스가 원 위에 있을 때 표
123 if (hoverLocation != null) {
124     fill(0);
125     textSize(16);
126     textFont(koreanFont); // 폰트 설정 적용
127     textAlign(CENTER, BOTTOM);
128     text(hoverLocation, mouseX, mouseY);
129 }
130
131
132
133 // 날짜 업데이트
134 currentDay++;
135 if (currentDay >= table.getRowCount()) {
136     currentDay = 0;
137 }
138 }
139
140 int getHousePrice(String name) {
141     int price = 0;
142     String cellValue = table.getString(currentDay, name);
143     if (cellValue != null && !cellValue.isEmpty()) {
144         try {
145             price = Integer.parseInt(cellValue);
146         } catch (NumberFormatException e) {
147             // 부동 소수점으로 파싱할 수 없는 경우에 대한 오류 처리 get help from GPT
148             println("부동 소수점으로 파싱할 수 없는 값: " + cellValue);
149         }
150     }
151     return price;
152 }
```

Screenshot

