```python
from google.colab import drive
drive.mount('/content/drive')
```

```
    Mounted at /content/drive
```

```python
import pandas as pd
import seaborn as sns
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
from bokeh.plotting import *
from bokeh.models import ColumnDataSource
```

```python
path ='/content/drive/MyDrive/Colab Notebooks/Lemonade2016-2.csv'
```

```python
lemon = pd.read_csv(path)
```

```python
lemon
```

	Date	Location	Lemon	Orange	Temperature	Leaflets	Price
0	7/1/16	Park	97	67	70	90.0	0.25
1	7/2/16	Park	98	67	72	90.0	0.25
2	7/3/16	Park	110	77	71	104.0	0.25
3	7/4/16	Beach	134	99	76	98.0	0.25
4	7/5/16	Beach	159	118	78	135.0	0.25
5	7/6/16	Beach	103	69	82	90.0	0.25
6	7/6/16	Beach	103	69	82	90.0	0.25
7	7/7/16	Beach	143	101	81	135.0	0.25
8	NaN	Beach	123	86	82	113.0	0.25
9	7/9/16	Beach	134	95	80	126.0	0.25
10	7/10/16	Beach	140	98	82	131.0	0.25
11	7/11/16	Beach	162	120	83	135.0	0.25
12	7/12/16	Beach	130	95	84	99.0	0.25
13	7/13/16	Beach	109	75	77	99.0	0.25
14	7/14/16	Beach	122	85	78	113.0	0.25

```python
lemon['Sales'] = lemon['Lemon']+lemon['Orange']
```

16	7/16/16	Beach	81	50	74	90.0	0.50

```python
lemon['Revenue'] = lemon['Sales']*lemon['Price']
```

18	7/18/16	Park	131	92	81	122.0	0.50

```python
lemon
```

	Date	Location	Lemon	Orange	Temperature	Leaflets	Price	Sales	Revenue
0	7/1/16	Park	97	67	70	90.0	0.25	164	41.00
1	7/2/16	Park	98	67	72	90.0	0.25	165	41.25
2	7/3/16	Park	110	77	71	104.0	0.25	187	46.75
3	7/4/16	Beach	134	99	76	98.0	0.25	233	58.25
4	7/5/16	Beach	159	118	78	135.0	0.25	277	69.25
5	7/6/16	Beach	103	69	82	90.0	0.25	172	43.00
6	7/6/16	Beach	103	69	82	90.0	0.25	172	43.00
7	7/7/16	Beach	143	101	81	135.0	0.25	244	61.00
8	NaN	Beach	123	86	82	113.0	0.25	209	52.25
9	7/9/16	Beach	134	95	80	126.0	0.25	229	57.25
10	7/10/16	Beach	140	98	82	131.0	0.25	238	59.50
11	7/11/16	Beach	162	120	83	135.0	0.25	282	70.50
12	7/12/16	Beach	130	95	84	99.0	0.25	225	56.25
13	7/13/16	Beach	109	75	77	99.0	0.25	184	46.00
14	7/14/16	Beach	122	85	78	113.0	0.25	207	51.75
15	7/15/16	Beach	98	62	75	108.0	0.50	160	80.00
16	7/16/16	Beach	81	50	74	90.0	0.50	131	65.50
17	7/17/16	Beach	115	76	77	126.0	0.50	191	95.50
18	7/18/16	Park	131	92	81	122.0	0.50	223	111.50
19	7/19/16	Park	122	85	78	113.0	0.50	207	103.50
20	7/20/16	Park	71	42	70	NaN	0.50	113	56.50
21	7/21/16	Park	83	50	77	90.0	0.50	133	66.50
22	7/22/16	Park	112	75	80	108.0	0.50	187	93.50

```
from bokeh.io import show, output_notebook
from bokeh.plotting import figure
```

| 24 | 7/24/16 | Park | 121 | 82 | 82 | 117.0 | 0.50 | 203 | 101.50 |

```
output_notebook()
```

| 26 | 7/26/16 | Park | 176 | 129 | 83 | 158.0 | 0.35 | 305 | 106.75 |

```
lemon
```

|	Date	Location	Lemon	Orange	Temperature	Leaflets	Price	Sales	Revenue
0	7/1/16	Park	97	67	70	90.0	0.25	164	41.00
1	7/2/16	Park	98	67	72	90.0	0.25	165	41.25
2	7/3/16	Park	110	77	71	104.0	0.25	187	46.75
3	7/4/16	Beach	134	99	76	98.0	0.25	233	58.25
4	7/5/16	Beach	159	118	78	135.0	0.25	277	69.25
5	7/6/16	Beach	103	69	82	90.0	0.25	172	43.00
6	7/6/16	Beach	103	69	82	90.0	0.25	172	43.00
7	7/7/16	Beach	143	101	81	135.0	0.25	244	61.00
8	NaN	Beach	123	86	82	113.0	0.25	209	52.25
9	7/9/16	Beach	134	95	80	126.0	0.25	229	57.25
10	7/10/16	Beach	140	98	82	131.0	0.25	238	59.50
11	7/11/16	Beach	162	120	83	135.0	0.25	282	70.50
12	7/12/16	Beach	130	95	84	99.0	0.25	225	56.25
13	7/13/16	Beach	109	75	77	99.0	0.25	184	46.00
14	7/14/16	Beach	122	85	78	113.0	0.25	207	51.75
15	7/15/16	Beach	98	62	75	108.0	0.50	160	80.00
16	7/16/16	Beach	81	50	74	90.0	0.50	131	65.50
17	7/17/16	Beach	115	76	77	126.0	0.50	191	95.50
18	7/18/16	Park	131	92	81	122.0	0.50	223	111.50
19	7/19/16	Park	122	85	78	113.0	0.50	207	103.50
20	7/20/16	Park	71	42	70	NaN	0.50	113	56.50
21	7/21/16	Park	83	50	77	90.0	0.50	133	66.50
22	7/22/16	Park	112	75	80	108.0	0.50	187	93.50
23	7/23/16	Park	120	82	81	117.0	0.50	202	101.00
24	7/24/16	Park	121	82	82	117.0	0.50	203	101.50
25	7/25/16	Park	156	113	84	135.0	0.50	269	134.50
26	7/26/16	Park	176	129	83	158.0	0.35	305	106.75
27	7/27/16	Park	104	68	80	99.0	0.35	172	60.20
28	7/28/16	Park	96	63	82	90.0	0.35	159	55.65
29	7/29/16	Park	100	66	81	95.0	0.35	166	58.10

```
p = figure(title="Sales by Temperature. With Revenue as Circle size", x_axis_label =
```

```
p.circle(lemon['Temperature'], lemon['Orange'], size=lemon['Revenue']/2, line_color="
```

GlyphRenderer(id = '1038', …)

```
output_file('Rao-DS201-HW4-plot1.html')
show(p)
```


Sales by Temperature. With Revenue as Circle size
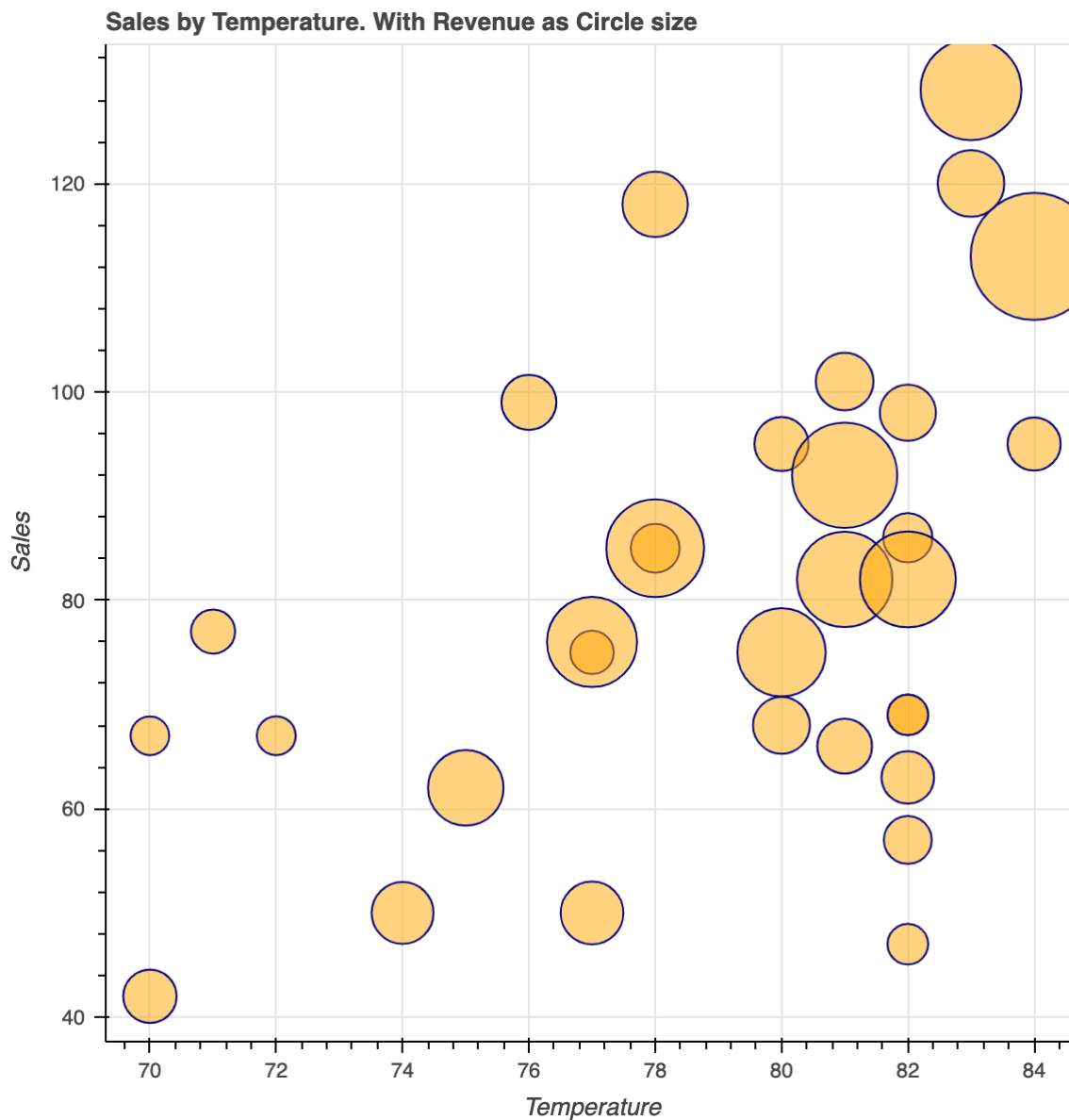
```
D_source = ColumnDataSource(lemon)

TOOLS = "pan,wheel_zoom,box_zoom,reset,save,box_select,lasso_select"

p1 = figure(tools=TOOLS, title="Revenue by Leaflets")
p1.circle('Leaflets', 'Revenue', color="blue", source=D_source)
```

```
p2 = figure(tools=TOOLS, title= Revenue vs. Sales )
p2.circle('Sales', 'Revenue', color="green", source=D_source)

p3 = figure(tools=TOOLS, title="Sales by Temperature")
p3.circle( 'Temperature','Sales',  line_color="red", fill_color=None, source=D_source

p = gridplot([[ p1, p2, p3]], toolbar_location="right")

output_file("Rao-DS201-HW4-plot2.html")

show(p)
```
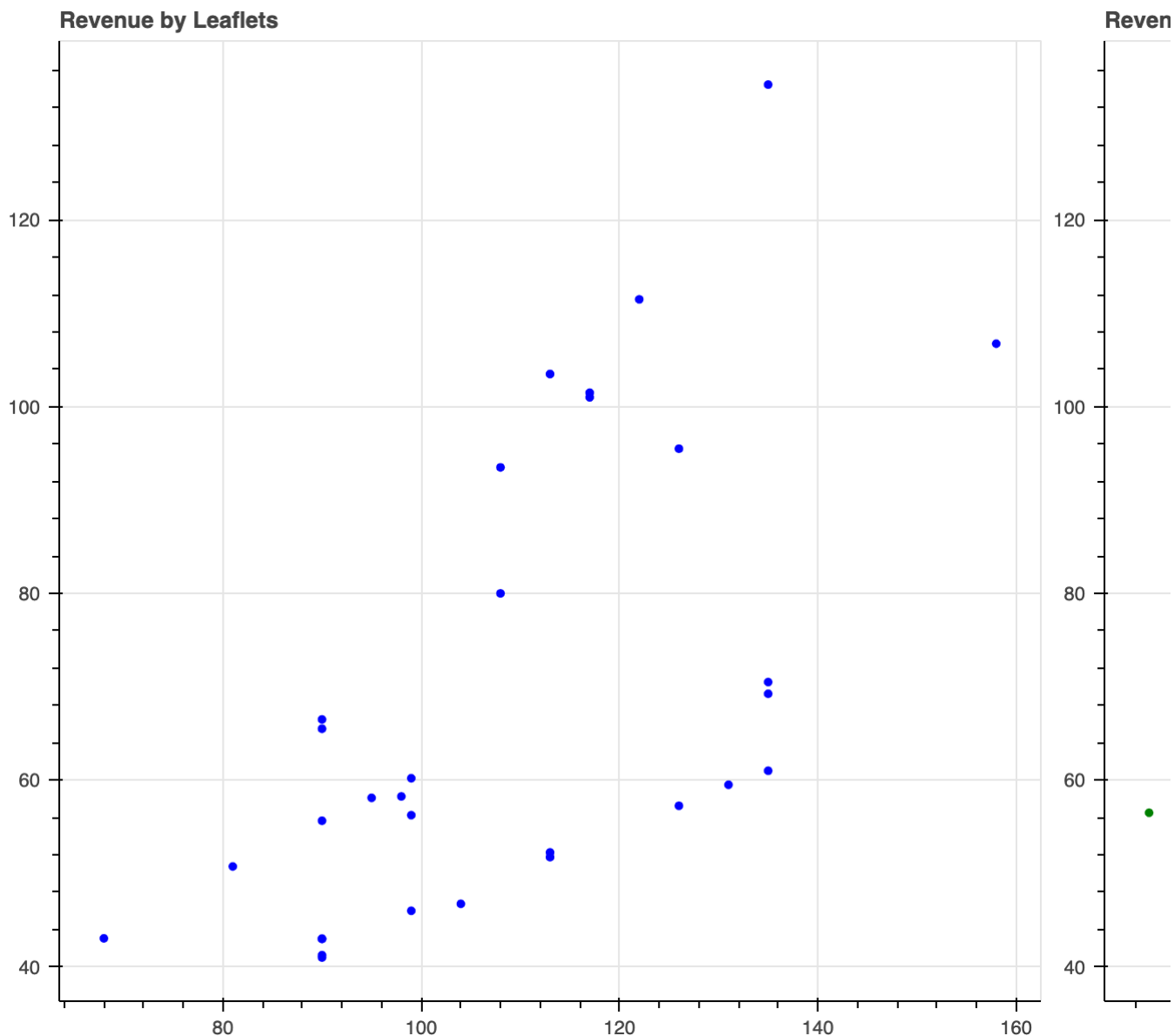
Colab paid products - Cancel contracts here

✓ 0s   completed at 20:07   ● ✕