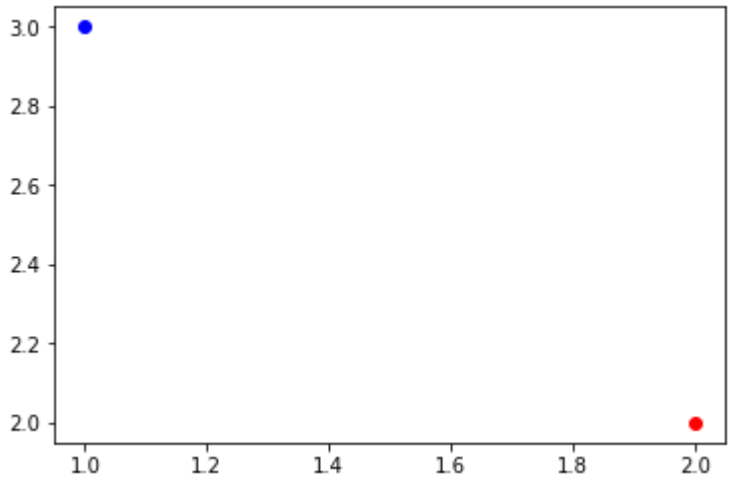
In [19]:

```
import matplotlib.pyplot as plt
plt.plot(1, 3, 'bo')
plt.plot(2, 2, 'ro')
```

Out[19]:

```
[<matplotlib.lines.Line2D at 0x1159927f0>]
```

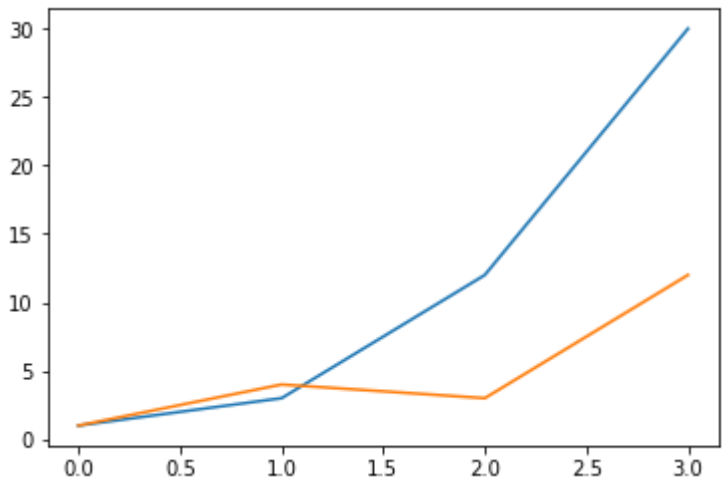


In [10]:

```
plt.plot([1, 3, 12, 30])
plt.plot([1, 4, 3, 12])
```

Out[10]:

```
[<matplotlib.lines.Line2D at 0x115418780>]
```

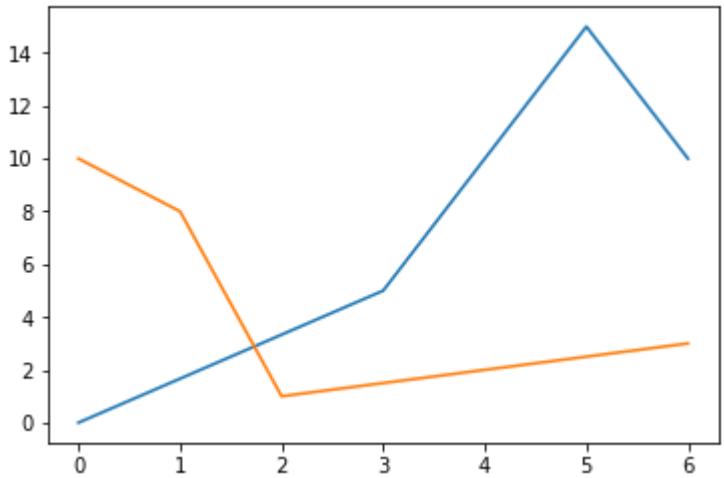


In [11]:

```
import matplotlib.pyplot as plt
plt.plot([0, 3, 5, 6], [0, 5, 15, 10])
plt.plot([0, 1, 2, 6], [10, 8, 1, 3])
```

Out[11]:

```
[<matplotlib.lines.Line2D at 0x1154784a8>]
```

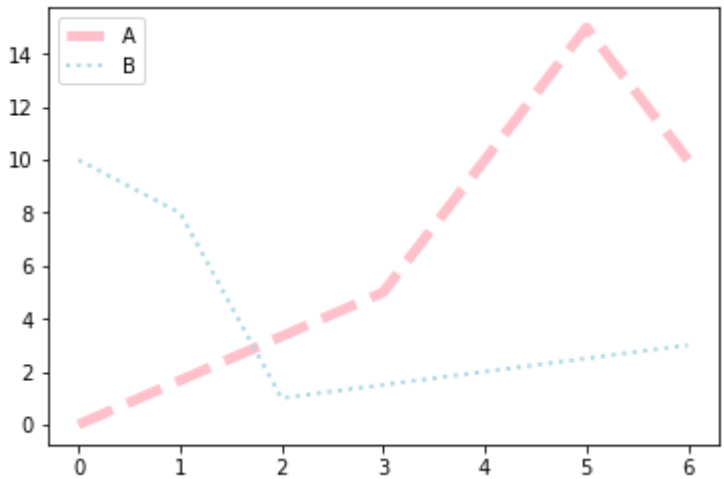


In [15]:

```
plt.plot([0, 3, 5, 6], [0, 5, 15, 10], '--',label='A',
color="pink", linewidth=5)
plt.plot([0, 1, 2, 6], [10, 8, 1, 3], ':', label='B',
color="lightblue", linewidth=2)
plt.legend()
```

Out[15]:

```
<matplotlib.legend.Legend at 0x1157d92b0>
```

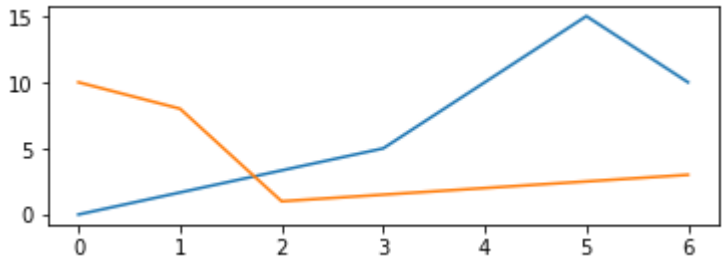


In [17]:

```
fig = plt.figure(figsize=(6,2))
plt.plot([0, 3, 5, 6], [0, 5, 15, 10])
plt.plot([0, 1, 2, 6], [10, 8, 1, 3])
```

Out[17]:

```
[<matplotlib.lines.Line2D at 0x1158d1828>]
```

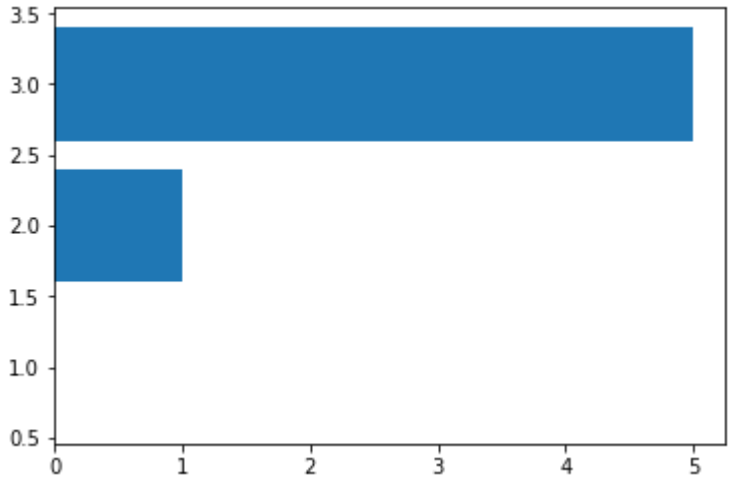


In [20]:

```
import matplotlib.pyplot as plt
plt.barh([1,2,3],[0,1,5])
```

Out[20]:

```
<BarContainer object of 3 artists>
```

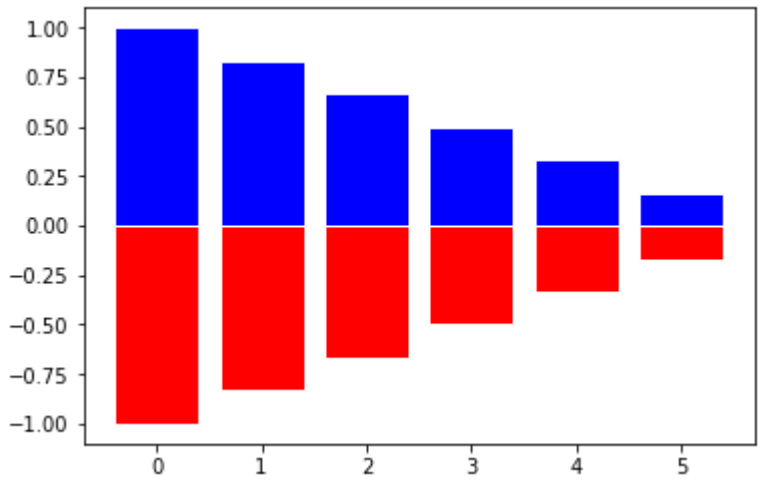


In [22]:

```
import numpy as np
n = 6
x = np.arange(n)
y1 = (1-x/float(n))
y2 = (1-x/float(n))
plt.bar(x, +y1, facecolor='blue', edgecolor='white')
plt.bar(x, -y2, facecolor='red', edgecolor='white')
```

Out[22]:

```
<BarContainer object of 6 artists>
```

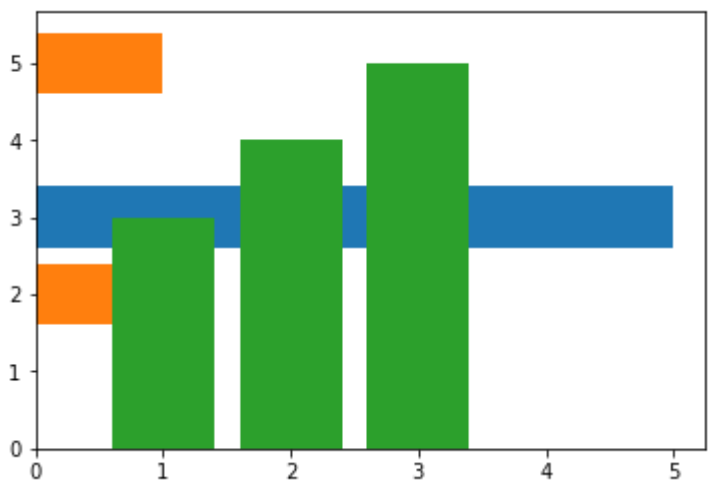


In [25]:

```
plt.barh([1,2,3],[0,1,5])
plt.barh([2,2,5],[1,1,1])
plt.bar([1,2,3],[3,4,5])
```

Out[25]:

```
<BarContainer object of 3 artists>
```

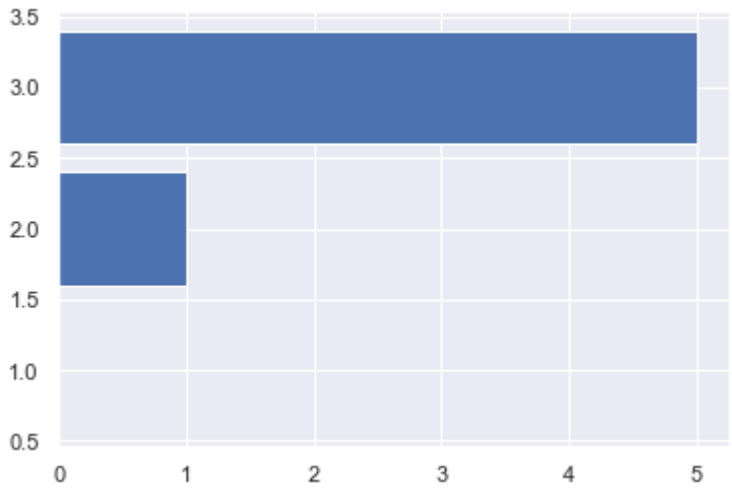


In [29]:

```
fig = plt.figure()
ax = fig.add_subplot(111)
ax.barh([1,2,3],[0,1,5])
```

Out[29]:

<BarContainer object of 3 artists>

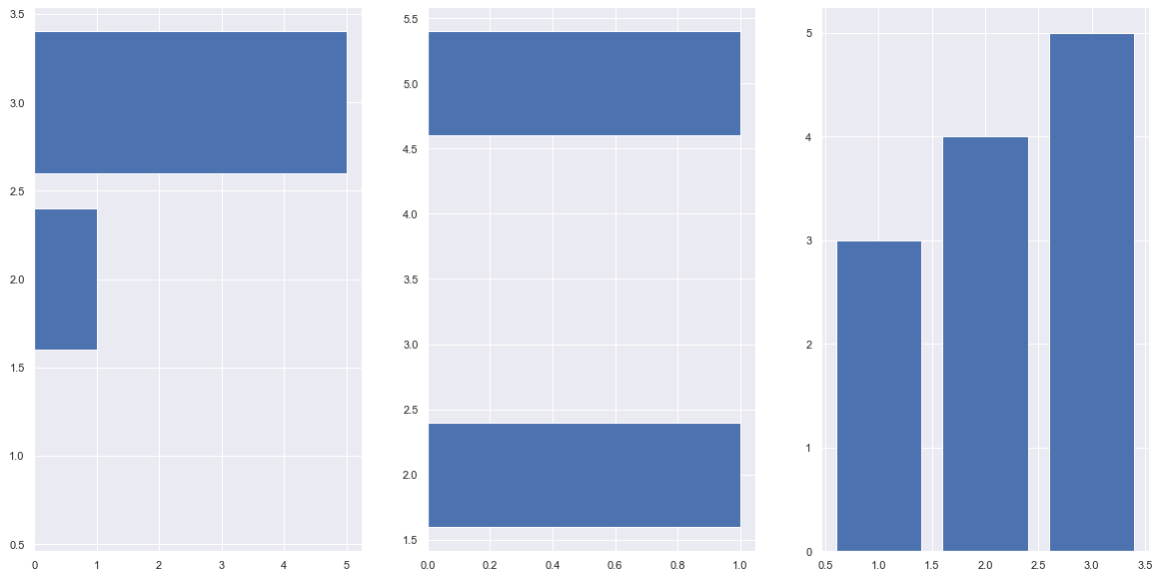


In [18]:

```
fig = plt.figure(figsize=(20,10))
ax1 = fig.add_subplot(131)
ax2 = fig.add_subplot(132)
ax3 = fig.add_subplot(133)
ax1.barh([1,2,3],[0,1,5])
ax2.barh([2,2,5],[1,1,1])
ax3.bar([1,2,3],[3,4,5])
```

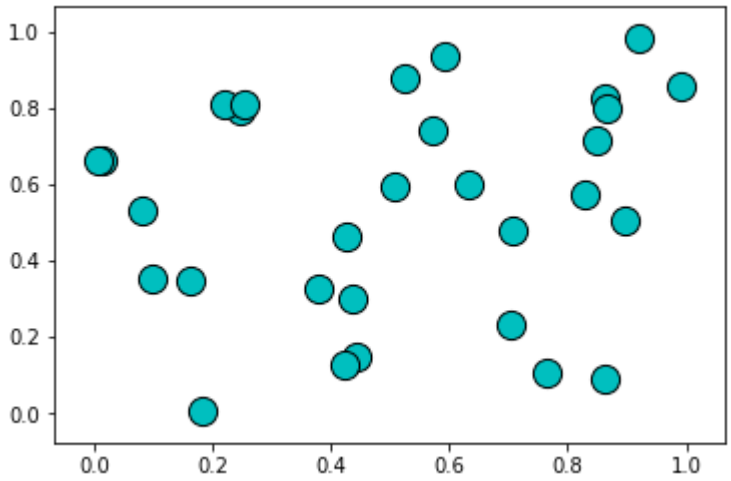
Out[18]:

<BarContainer object of 3 artists>



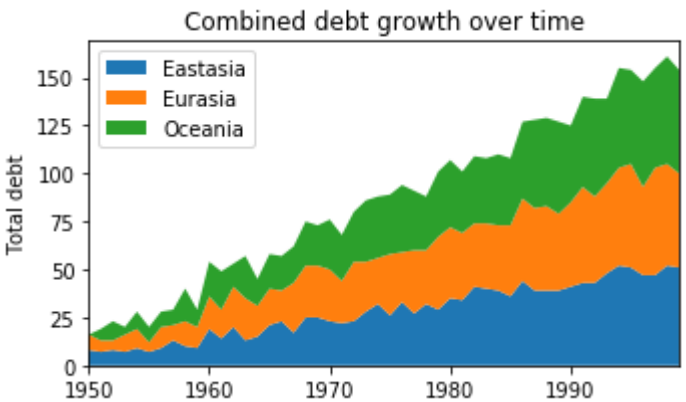
In [29]:

```
import numpy as np
fig = plt.figure()
ax = fig.add_subplot(111)
N = 30
x = np.random.rand(N)
y = np.random.rand(N)
scat = ax.scatter(x, y, 200 ,edgecolors = 'k', facecolors='c')
```



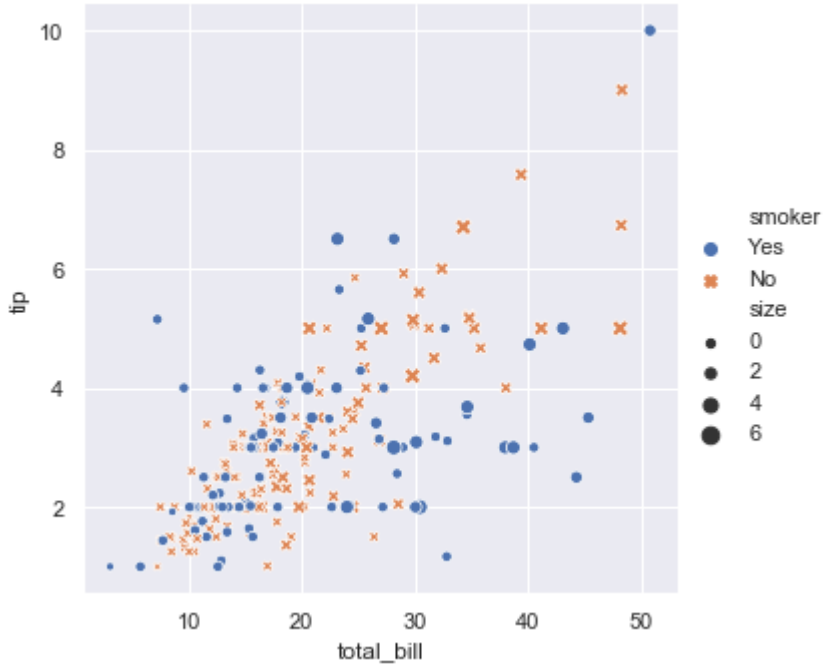
In [32]:

```
import numpy as np
rng = np.arange(50)
rnd = np.random.randint(0, 10, size=(3, rng.size))
yrs = 1950 + rng
fig, ax = plt.subplots(figsize=(5, 3))
ax.stackplot(yrs, rng + rnd, labels=['Eastasia', 'Eurasia', 'Oceania'])
ax.set_title('Combined debt growth over time')
ax.legend(loc='upper left')
ax.set_ylabel('Total debt')
ax.set_xlim(xmin=yrs[0], xmax=yrs[-1])
fig.tight_layout()
```



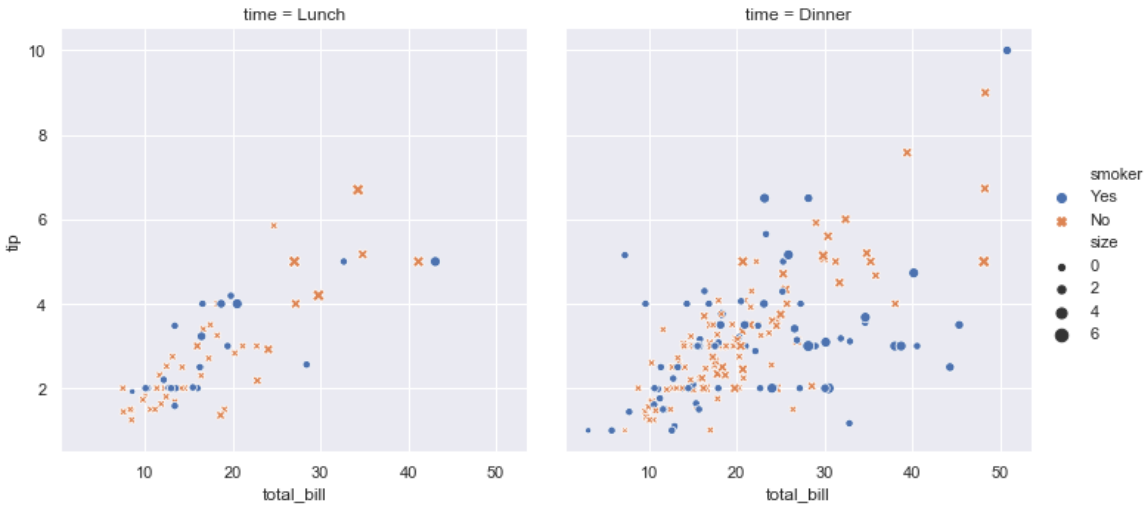
In [3]:

```
import seaborn as sns
sns.set()
tips = sns.load_dataset("tips")
sns.relplot(x="total_bill", y="tip",hue="smoker",style="smoker", size="size", da
ta=tips);
```



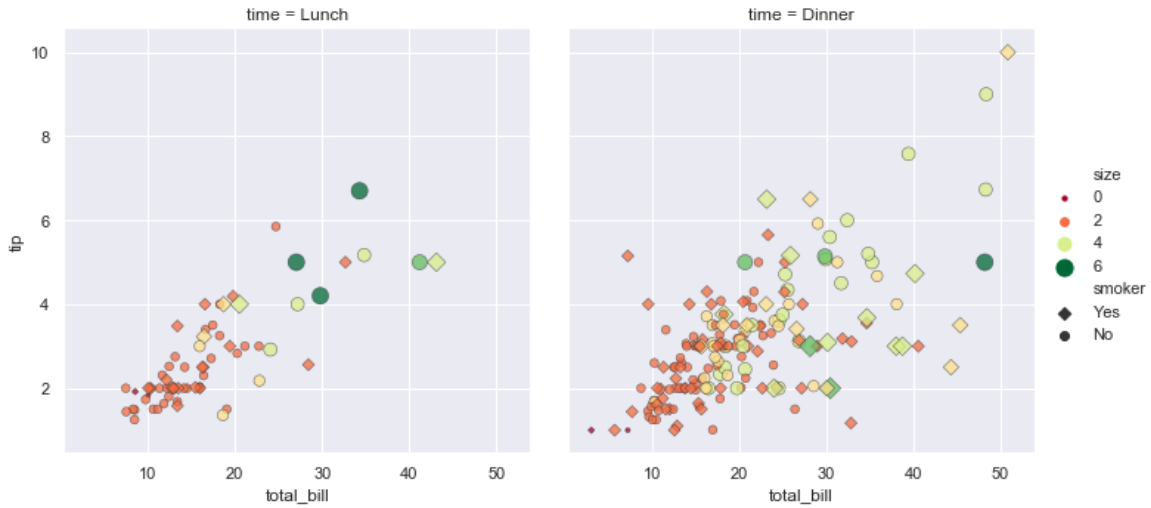
In [2]:

```
sns.set()
tips = sns.load_dataset("tips")
sns.relplot(x="total_bill", y="tip", col="time", hue="smoker",style="smoker", si
ze="size", data=tips);
```



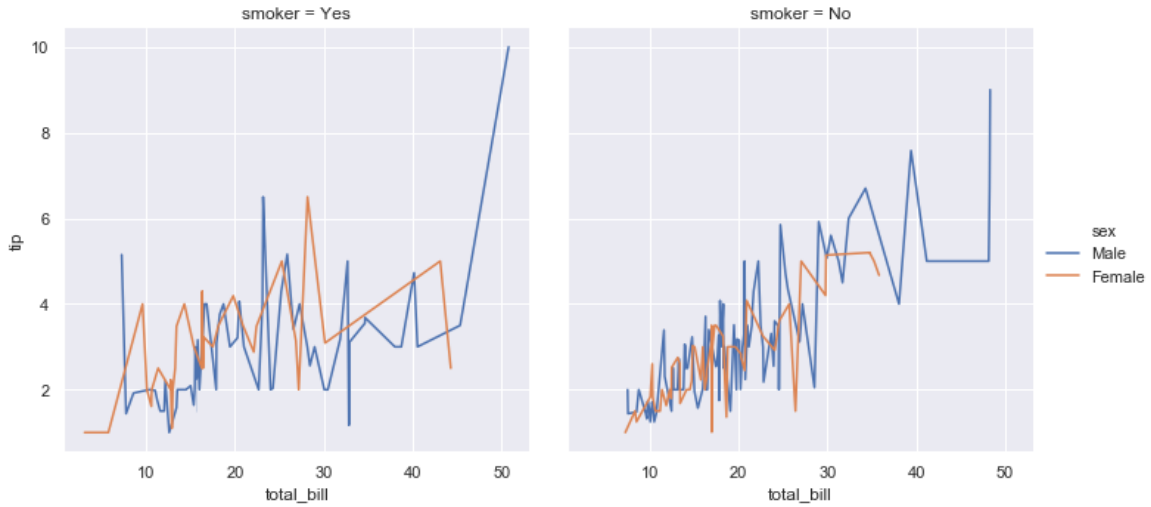
In [21]:

```
sns.relplot(x="total_bill", y="tip", col="time", hue="size",
style="smoker", size="size", palette="RdYlGn", markers=["D",
"o"], sizes=(10, 125), edgecolor=".2", linewidth=.5, alpha=.75,
data=tips);
```



In [5]:

```
sns.set()
tips = sns.load_dataset("tips")
sns.relplot(x="total_bill", y="tip", col="smoker", hue="sex",
kind="line", data=tips);
```



In [6]:

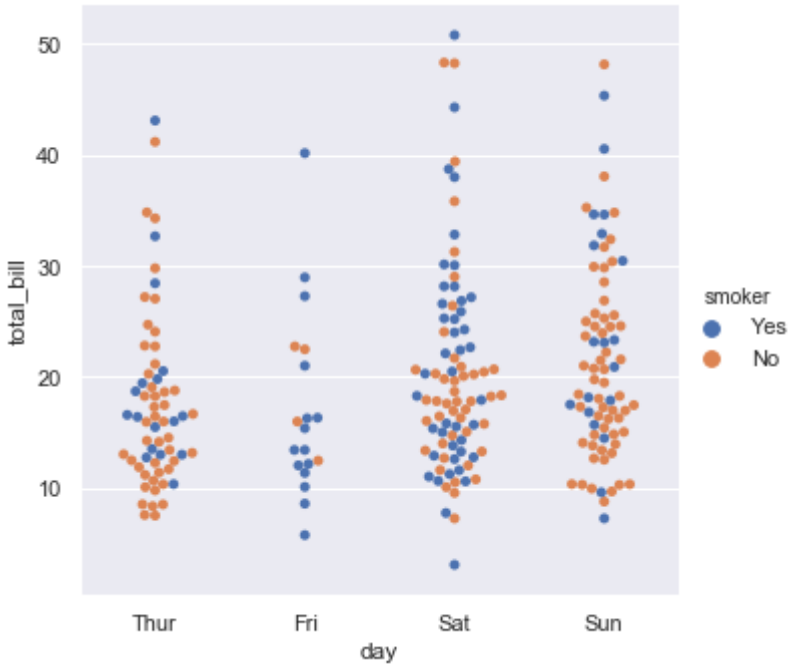
```
tips.head()
```

Out[6]:

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

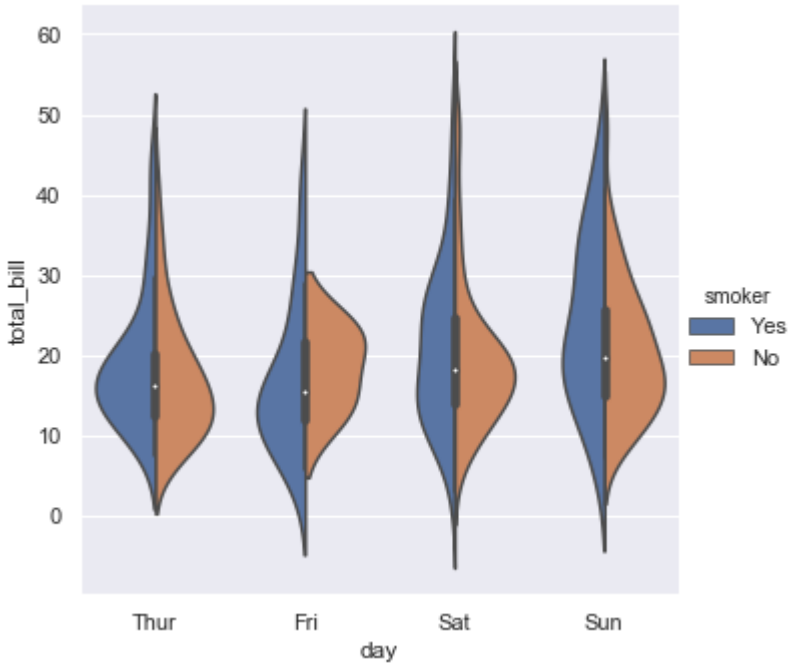
In [8]:

```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set()
tips = sns.load_dataset("tips")
sns.catplot(x="day", y="total_bill", hue="smoker", kind="swarm",
data=tips);
plt.show()
```



In [9]:

```
sns.catplot(x="day", y="total_bill", hue="smoker",
kind="violin", split=True, data=tips);
```



In [10]:

```
sns.catplot(x="day", y="total_bill", hue="smoker", kind="bar",
data=tips);
```