Untitled11

June 26, 2020

In [16]:
```
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns; sns.set()
```

In [17]:
```
# you can change the values of r to get different arrangement of slopes in scattered
r = -1
```

In [18]:
```
mean = [15, 5]
cov = [[1, r], [r, 1]]
```

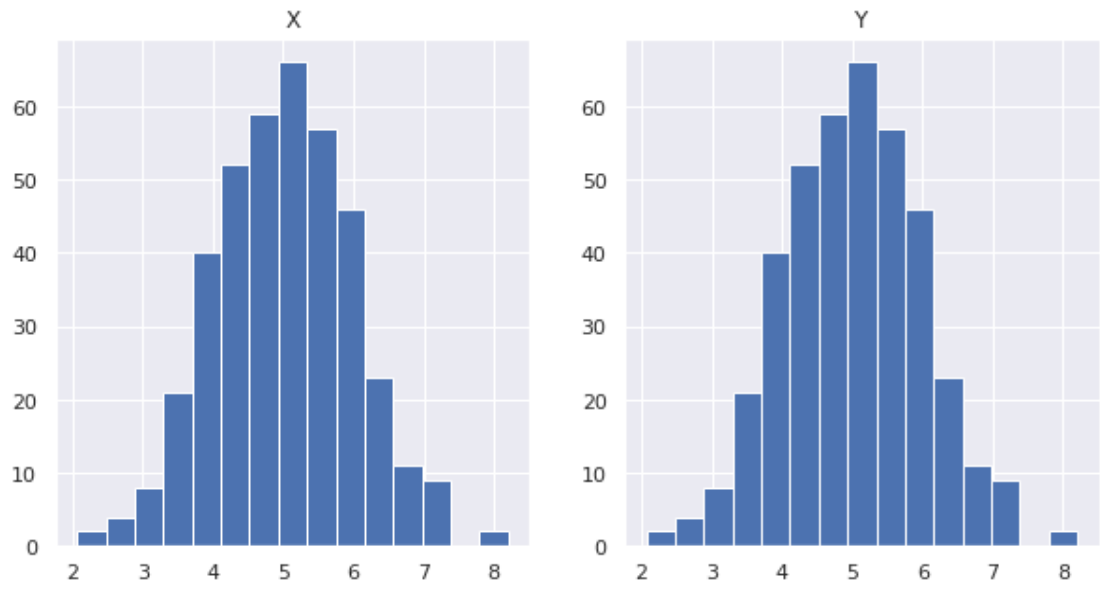
In [19]:
```
x, y = x, y = np.random.multivariate_normal(mean, cov, 400).T
```

In [20]:
```
plt.figure(figsize = (10,5))

plt.subplot(1, 2, 1)
plt.hist(x = y, bins = 15)
plt.title("X")

plt.subplot(1, 2, 2)
plt.hist(x = y, bins = 15)
plt.title("Y")

plt.show()
```



```
In [21]: plt.figure(figsize = (10,10))
         plt.subplot(2,2,2)
         plt.scatter(x = x, y = y)
         plt.title("Joint distribution of x and y")

         plt.subplot(2,2,4)
         plt.hist(x = x, bins = 15)
         plt.title("Marginal distribution of X")

         plt.subplot(2,2,1)
         plt.hist(x = x, orientation = "horizontal", bins = 15)
         plt.title("Marginal distribution of X")

         plt.show()
```