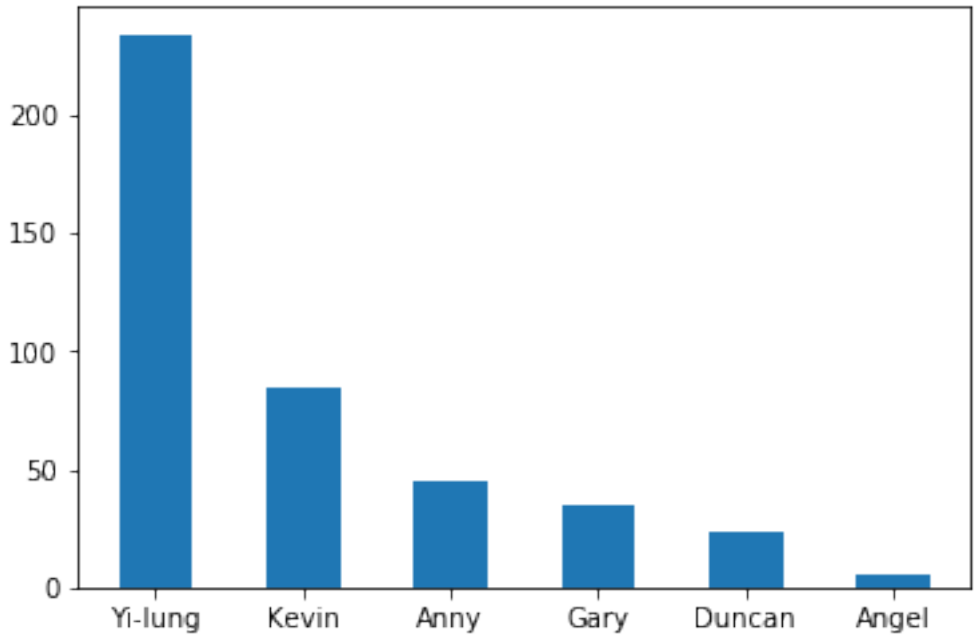
In [1]:
```
import pandas as pd
cusdet=pd.read_csv('/Users/xiyongzhang/documents/MQ/RA_ACST890_notes/w10_example_pandas_
```

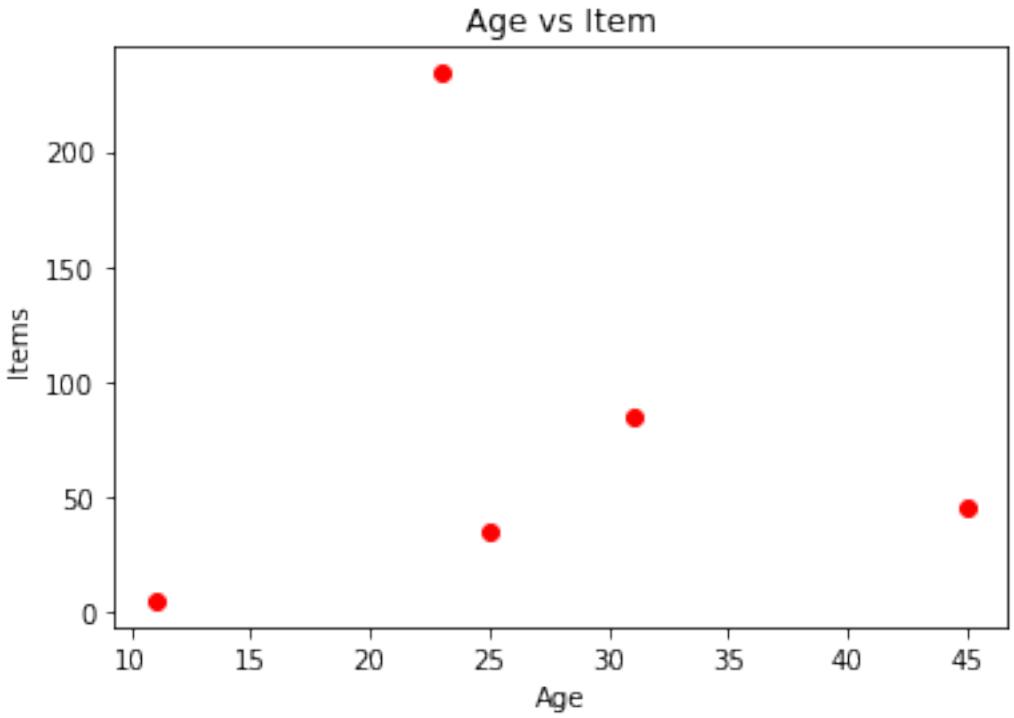
In [2]:
```
# the plot function is included in matplotlib.pyplot package
import matplotlib.pyplot as plt
```

In [3]:
```
# Bar Plot

# Task: Plot a graph which shows quantity of purchase by each customer in a descending o

# Preparing data
d=cusdet[['Customer','item']].sort_values(by='item',ascending=0)

# plt.bar(x,y) first two argument is essential
# x is position/order of bars, example, [2,1] will plot second row before first row
# y is bar height
x=range(len(d['Customer']))
plt.bar(x,d['item'],width=0.5,tick_label=d['Customer'])
# tick_label assigns the label of data

plt.show()
```



In [4]:
```
# Scattered plot
# Task: Plot quantity of purchase against age
plt.plot(cusdet['age'],cusdet['item'],'ro')
# without 'ro' it will produce line plot
```

```
# we can lable axis
plt.title('Age vs Item')
plt.xlabel('Age')
plt.ylabel('Items')

plt.show()
```



In [5]:
```
# Box plot:
# Taks: plot a set of normal and exponential random variables

# Firstly, generate data
import scipy.stats as st
# Let N1~N(0,1) and E1~Exp(1)
N1=[st.norm.rvs(0,1) for i in range(1000)]
E1=[st.expon.rvs(1) for i in range(1000)]
data=[N1,E1]

# Plot
plt.boxplot(data)

# xticks(position, label)
plt.xticks([1,2],('N(0,1)', 'Exp(1)'))
```

```
plt.show()
```