Unit 12 Assignment

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April 18, 2017

Question 1

In [77]:
```
my_list = [45.4, 44.2, 36.8, 35.1, 39.0, 60.0, 47.4, 41.1, 45.8, 35.6]
my_list
```

Out[77]:
```
[45.4, 44.2, 36.8, 35.1, 39.0, 60.0, 47.4, 41.1, 45.8, 35.6]
```

Question 1)a

In [78]:
```
print my_list[5]
```

```
60.0
```

Question 1)b

In [79]:
```
my_list.append( 55.2 );
my_list
```

Out[79]:
```
[45.4, 44.2, 36.8, 35.1, 39.0, 60.0, 47.4, 41.1, 45.8, 35.6, 55.2]
```

Question 1)c

In [80]:
```
del my_list[-6]
my_list
```

Out[80]:
```
[45.4, 44.2, 36.8, 35.1, 39.0, 47.4, 41.1, 45.8, 35.6, 55.2]
```

Question 1)d

In [81]:
```
for value in my_list:
    if value > 45:
        print(value)
```

```
45.4
47.4
45.8
55.2
```

Question 2

Question 2)a

In [82]:
```
import numpy as np
```

Question 2)b

In [83]:
```
my_array = np.array(my_list)
my_array
```

Out[83]:
```
array([ 45.4,  44.2,  36.8,  35.1,  39. ,  47.4,  41.1,  45.8,  35.6,  55.2
])
```

Question 2)c

In [84]:
```
np.mean(my_array)
```

Out[84]:
```
42.560000000000002
```

In [85]:
```
np.std(my_array)
```

Out[85]:
```
5.9709630713981143
```

Question 2)d

In [86]:
```
threshold = 45
np.array(filter(lambda x: x <= threshold, my_array))
```

Out[86]:
```
array([ 44.2,  36.8,  35.1,  39. ,  41.1,  35.6])
```

Question 2)e

In [87]:
```
np.max(my_array)
```

Out[87]:
```
55.200000000000003
```

In [88]:
```
np.min(my_array)
```

Out[88]:
```
35.100000000000001
```

Question 3

Question 3)a

In [115]:
```
import matplotlib.pyplot as plt
import pandas
```

Question 3)b

In [109]:
```
iris = pandas.read_csv("C:\Users\esunqua\Documents\Python Scripts\Iris.csv"
)
```

Question 3)c

In [110]:
```
iris.head()
```

Out[110]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa

Question 3)d

In [111]:
```
iris.drop('Id', axis=1, inplace=True)
iris.head()
```

Out[111]:

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	5.1	3.5	1.4	0.2	Iris-setosa
1	4.9	3.0	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5.0	3.6	1.4	0.2	Iris-setosa

Question 3)e

In [112]:
```
iris2= iris[iris.Species=='Iris-setosa']
len(iris2)
```

Out[112]:
```
50
```

In [113]:
```
len(iris)
```

Out[113]:
```
150
```

Question 3)f

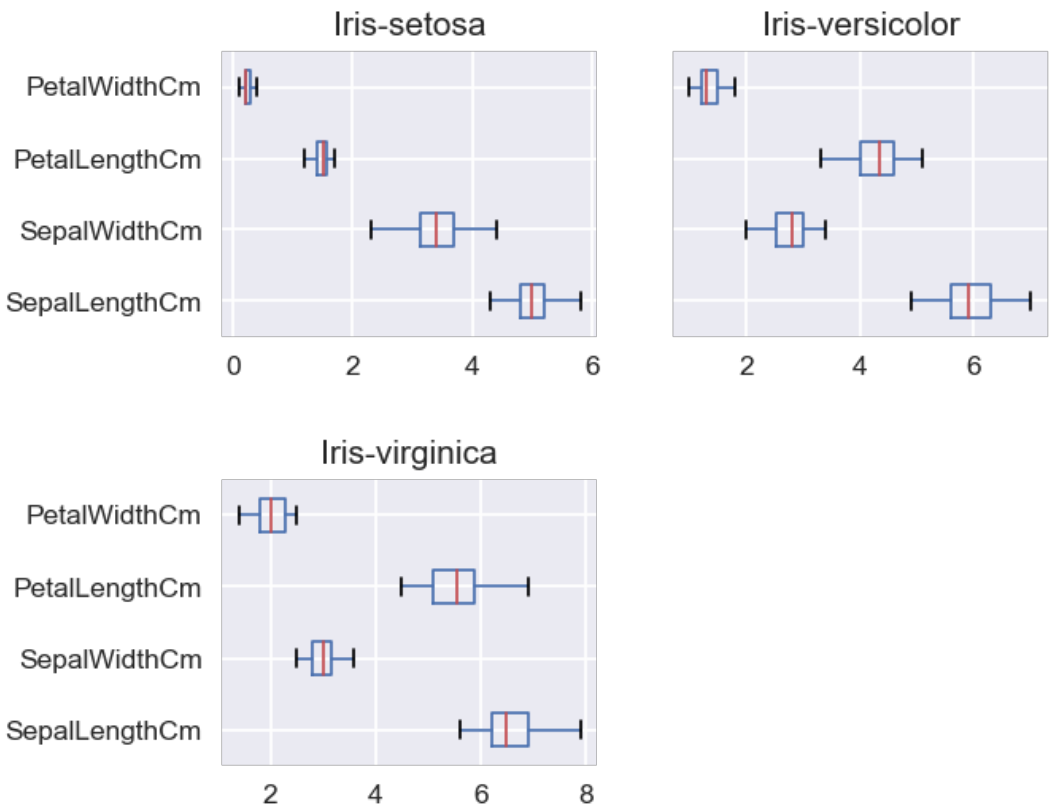
In [102]:
```
iris.describe()
```

Out[102]:

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.054000	3.758667	1.198667
std	0.828066	0.433594	1.764420	0.763161
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000
max	7.900000	4.400000	6.900000	2.500000

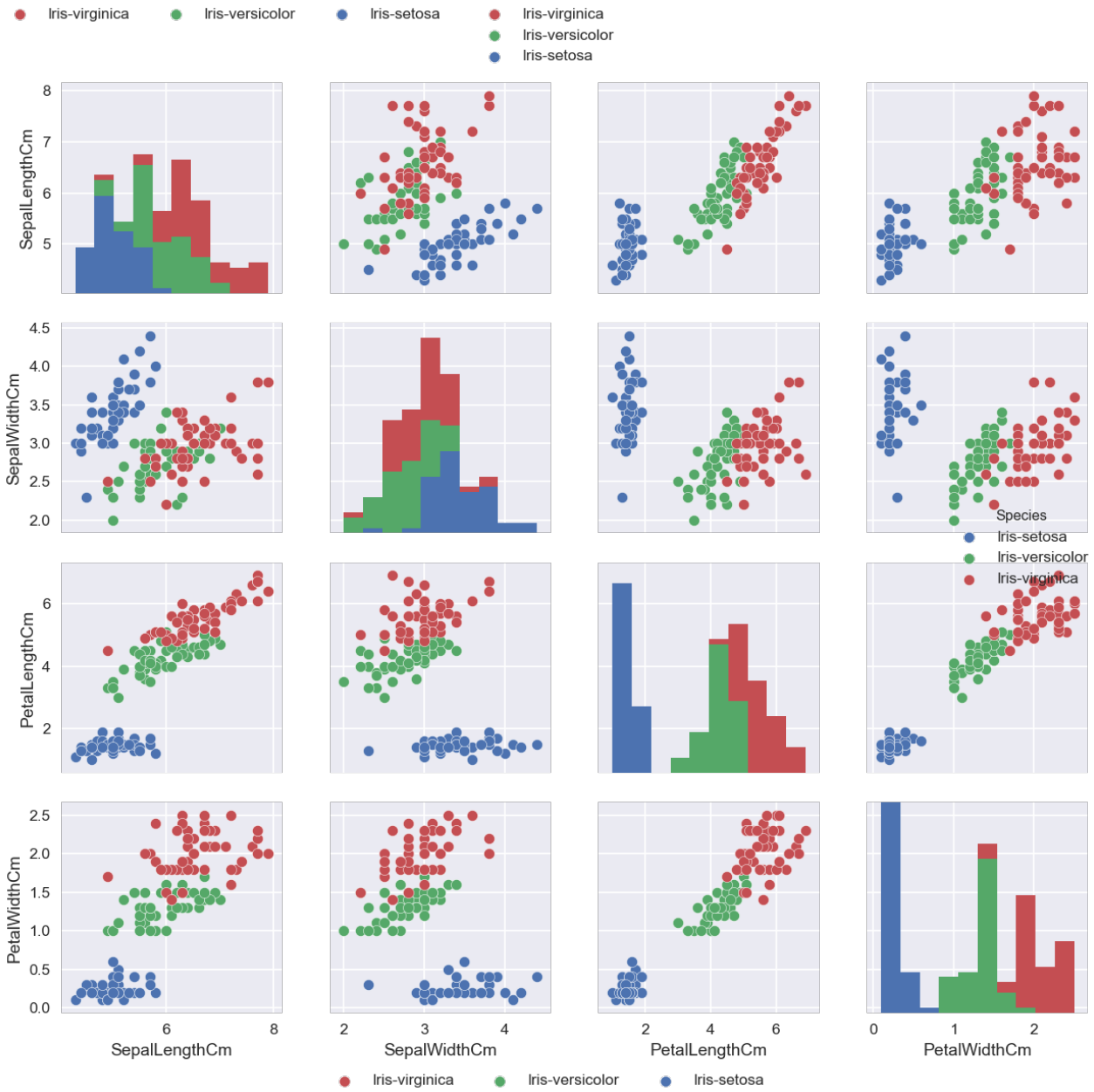
Question 3)g

In [121]:
```
iris.groupby(iris['Species']).boxplot(vert=False)
plt.subplots_adjust(left=0.25, hspace = 0.5)
plt.show()
```



Question 3)h

In [125]:
```
import seaborn
g=seaborn.pairplot(iris,hue='Species')
handles = g._legend_data.values()
labels = g._legend_data.keys()
g.fig.legend(handles=handles, labels=labels, loc='upper center', ncol=1)
g.fig.legend(handles=handles, labels=labels, loc='lower center', ncol=3)
g.fig.legend(handles=handles, labels=labels, loc='upper left', ncol=3)
g.fig.subplots_adjust(top=0.92, bottom=0.08)
```



In [ ]: