DATA EXPLORATION USING SEABORN

Import the iris dataset:
from sklearn.datasets import load_iris
iris = load_iris()
data = pd. DataFrame(iris.data, columns=iris.feature_names)
label = pd.DataFrame(list(map(lambda x : iris.target_names[x], iris.targe
t)), column s=['Species'])
iris = pd.concat([data, label], axis=1) print(iris.head())
Expected output after this stage is shown below. You do NOT have to execu
te the fo llowing 2 lines. They are given as reference for expected outpu
t only.

In [1]:
```
import pandas as pd
from sklearn.datasets import load_iris
iris = load_iris()
data = pd. DataFrame(iris.data, columns=iris.feature_names)
label = pd.DataFrame(list(map(lambda x : iris.target_names[x], iris.target)), col
iris = pd.concat([data, label], axis=1)
print(iris.head())
```

```
   sepal length (cm)  sepal width (cm)  petal length (cm)  petal width (cm)  \
0                5.1               3.5                1.4               0.2
1                4.9               3.0                1.4               0.2
2                4.7               3.2                1.3               0.2
3                4.6               3.1                1.5               0.2
4                5.0               3.6                1.4               0.2

  Species
0  setosa
1  setosa
2  setosa
3  setosa
4  setosa
```

1) Use the distplot() to see the distribution of the SepalLengthCm, SepalWidthcm, P etalLengthCm, PetalWidthCm features. Plot them as subplots in a single image.

In [4]:
```
import seaborn as sb
import matplotlib.pyplot as plt
sb.set(style="white", palette="muted", color_codes=True)
f, axes = plt.subplots(2, 2)
sb.distplot(iris["sepal length (cm)"],color='b',ax=axes[0,0])
sb.distplot(iris["sepal width (cm)"],color='r',ax=axes[0,1])
sb.distplot(iris["petal length (cm)"],color='g',ax=axes[1,0])
sb.distplot(iris["petal width (cm)"],color='m',ax=axes[1,1])
```

```
C:\Users\manoj\Anaconda3\lib\site-packages\matplotlib\axes\_axes.py:6462: UserW
arning: The 'normed' kwarg is deprecated, and has been replaced by the 'densit
y' kwarg.
  warnings.warn("The 'normed' kwarg is deprecated, and has been "
C:\Users\manoj\Anaconda3\lib\site-packages\matplotlib\axes\_axes.py:6462: UserW
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arning: The 'normed' kwarg is deprecated, and has been replaced by the 'densit
y' kwarg.
  warnings.warn("The 'normed' kwarg is deprecated, and has been "
```
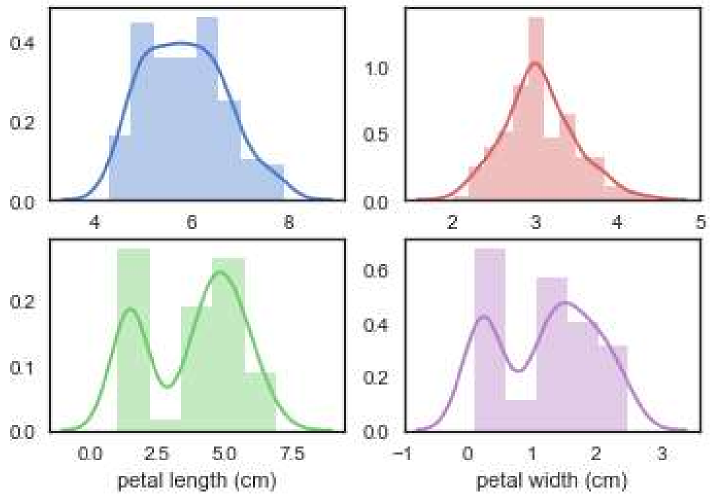
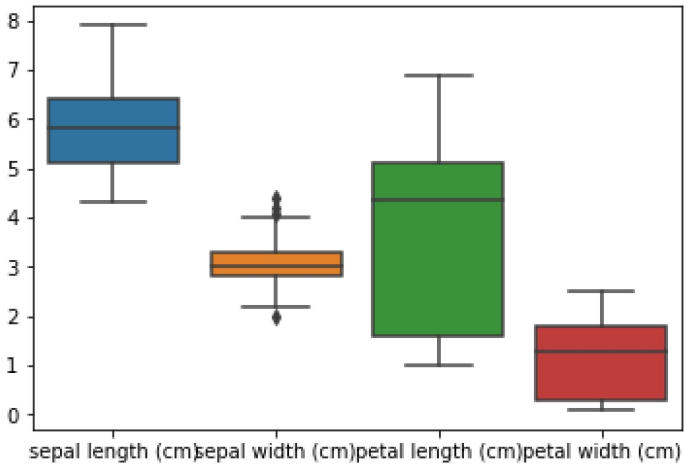

Out[4]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x2a0aa59c4a8>
```



2) Do a boxplot of all features except 'Species'.

In [42]:
```
sb.boxplot(data=iris.loc[:,iris.columns!='Species'])
```

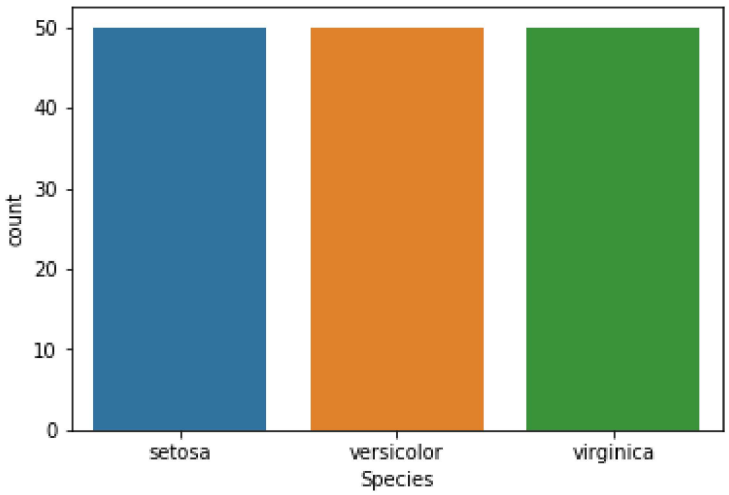
Out[42]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x245d3931b70>
```



3) Do a countplot for the feature 'Species'

In [48]:
```
sb.countplot(iris['Species'])
```

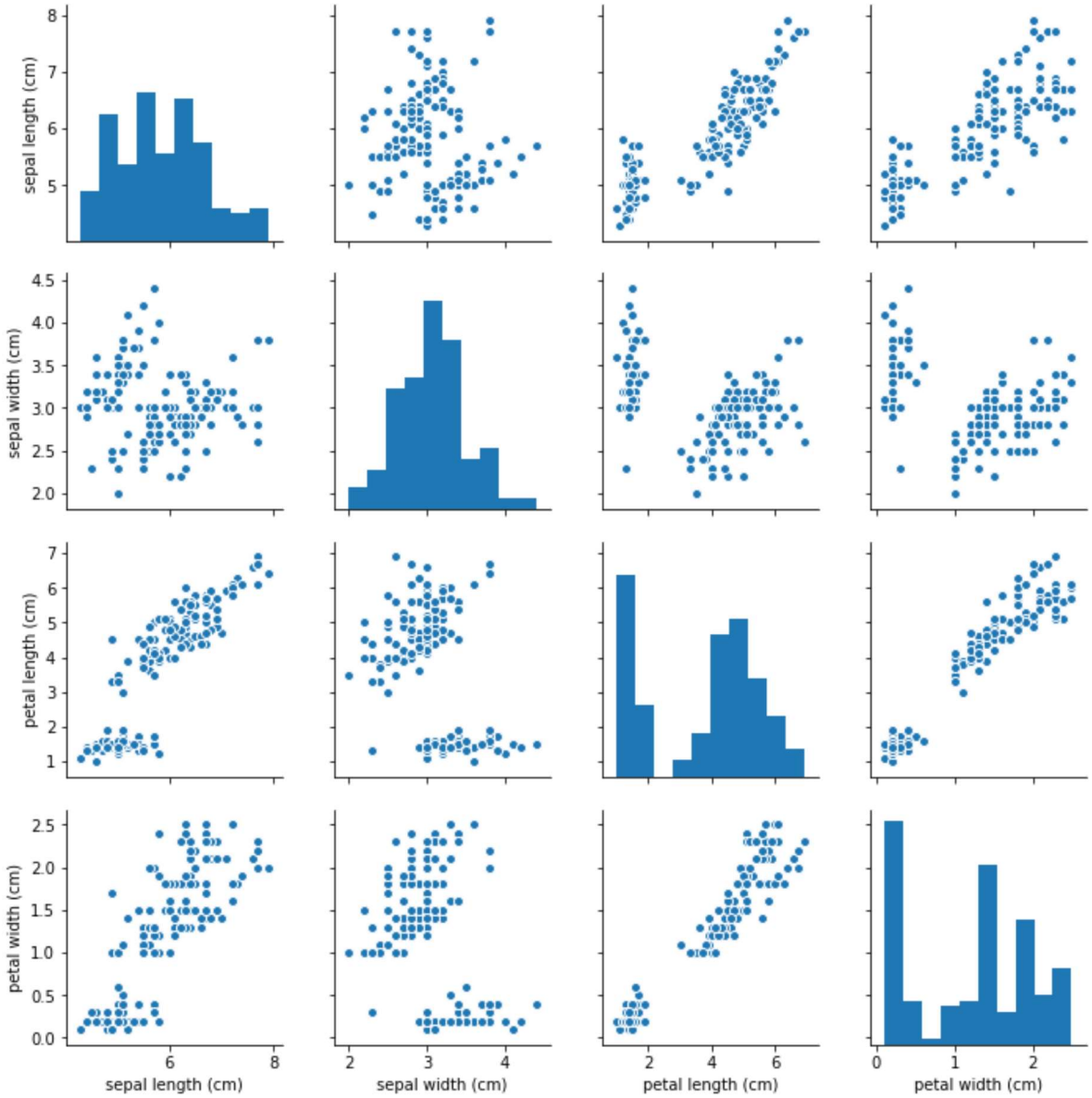
Out[48]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x245d3c37048>
```



4) Do a pairplot on the features 'SepalLengthcm', 'SepalWidthcm', 'PetalLengthCm','PetalWidthCm', 'Species'.

In [49]:
```
sb.pairplot(iris)
```

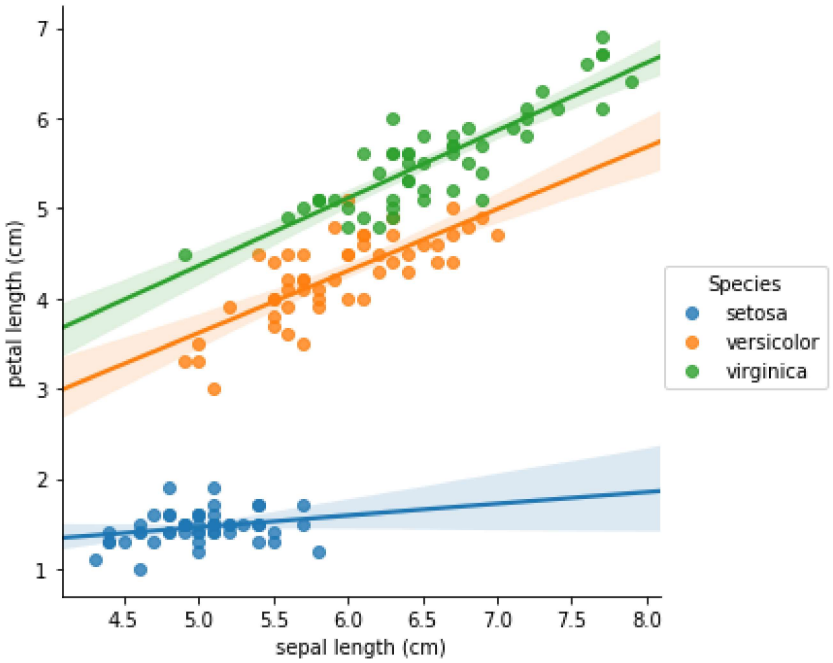
Out[49]:
```
<seaborn.axisgrid.PairGrid at 0x245d3c96c50>
```



5) Do an Implot on the following SepalLengthcm, PetalLengthcm. Using hue, display the different species in different colors.

In [58]:
```
sb.lmplot("sepal length (cm)","petal length (cm)",data=iris,hue='Species')
```

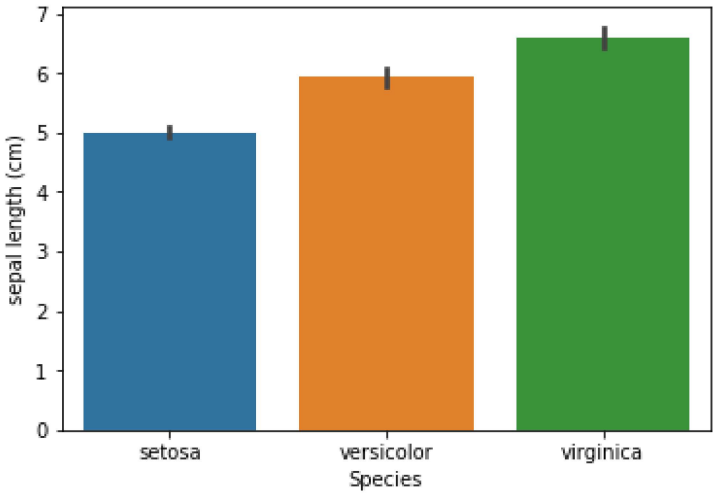
Out[58]:
```
<seaborn.axisgrid.FacetGrid at 0x245d4348748>
```



6) Do a barplot of 'Species' vs 'SepalLengthCm'.

In [60]:
```
sb.barplot('Species','sepal length (cm)',data=iris)
```

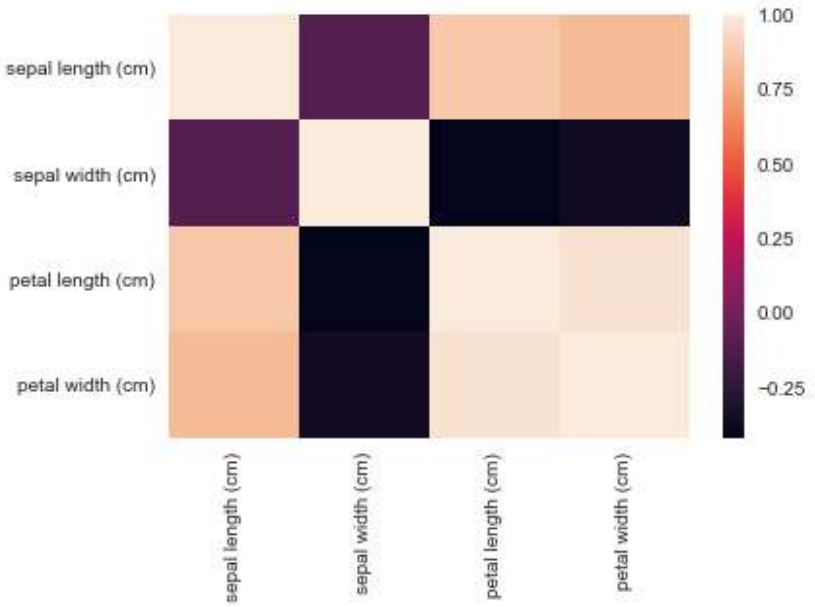
Out[60]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x245d57597b8>
```



7) Using heatmap, plot the correlation matrix.

In [77]:
```
sb.heatmap(data=iris.corr())
```

Out[77]: <matplotlib.axes._subplots.AxesSubplot at 0x245d61499b0>



In [ ]:
```

```