expt10

April 26, 2024

```
[ ]: #exp_10
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     #Roll No: A-36
```

```
[1]: import seaborn as sns
     iris = sns.load_dataset("iris")
```

```
[2]: iris
```

```
[2]:      sepal_length  sepal_width  petal_length  petal_width    species
     0             5.1          3.5           1.4          0.2     setosa
     1             4.9          3.0           1.4          0.2     setosa
     2             4.7          3.2           1.3          0.2     setosa
     3             4.6          3.1           1.5          0.2     setosa
     4             5.0          3.6           1.4          0.2     setosa
     ..            ...          ...           ...          ...        ...
     145           6.7          3.0           5.2          2.3  virginica
     146           6.3          2.5           5.0          1.9  virginica
     147           6.5          3.0           5.2          2.0  virginica
     148           6.2          3.4           5.4          2.3  virginica
     149           5.9          3.0           5.1          1.8  virginica

     [150 rows x 5 columns]
```

```
[3]: iris.info
```

```
[3]: <bound method DataFrame.info of      sepal_length  sepal_width  petal_length
     petal_width    species
     0             5.1          3.5           1.4          0.2     setosa
     1             4.9          3.0           1.4          0.2     setosa
     2             4.7          3.2           1.3          0.2     setosa
     3             4.6          3.1           1.5          0.2     setosa
     4             5.0          3.6           1.4          0.2     setosa
     ..            ...          ...           ...          ...        ...
     145           6.7          3.0           5.2          2.3  virginica
     146           6.3          2.5           5.0          1.9  virginica
     147           6.5          3.0           5.2          2.0  virginica
```

```
148          6.2          3.4          5.4          2.3  virginica
149          5.9          3.0          5.1          1.8  virginica

[150 rows x 5 columns]>
```

[4]: `iris.describe()`

[4]:
```
       sepal_length  sepal_width  petal_length  petal_width
count    150.000000   150.000000    150.000000   150.000000
mean       5.843333     3.057333      3.758000     1.199333
std        0.828066     0.435866      1.765298     0.762238
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
```

[5]: `type(iris.sepal_length)`

[5]: `pandas.core.series.Series`

[6]: `iris.sepal_length.dtype`

[6]: `dtype('float64')`

[7]: `iris.sepal_width.dtype`

[7]: `dtype('float64')`

[8]: `iris.petal_length.dtype`

[8]: `dtype('float64')`

[9]: `iris.petal_width.dtype`

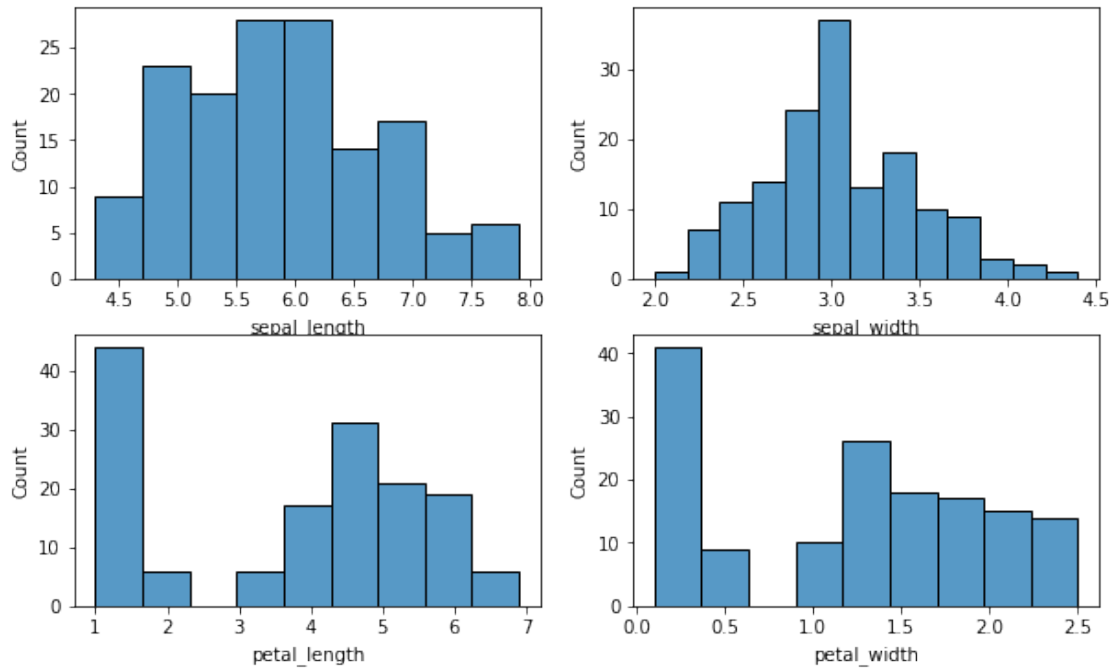[9]: `dtype('float64')`

[10]: `iris.species.dtype`

[10]: `dtype('O')`

[11]: `iris.species.dtype`

[11]: `dtype('O')`

[13]:
```python
import matplotlib.pyplot as plt
fig,axes = plt.subplots(2,2,figsize=(10,6))
```
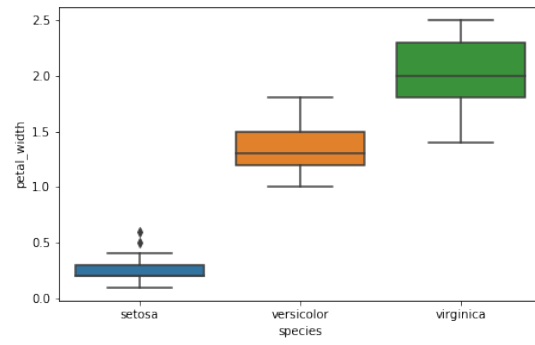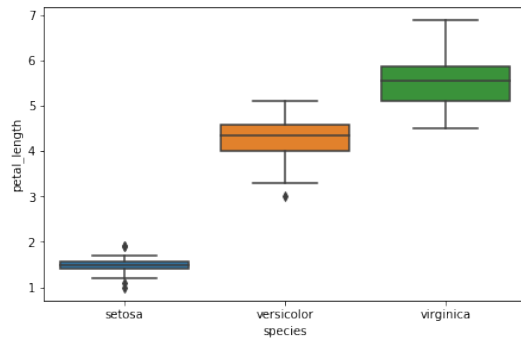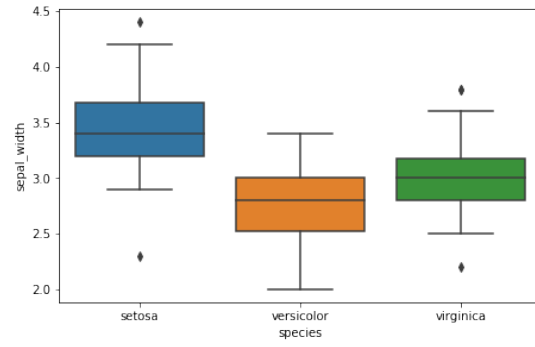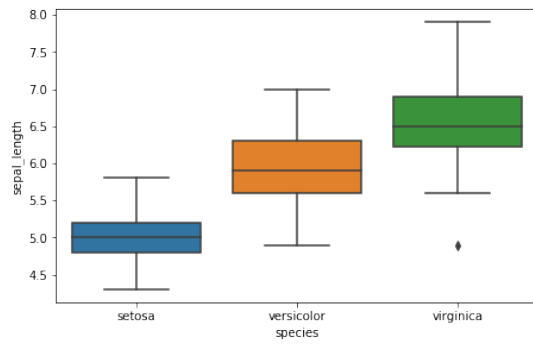
```python
sns.histplot(iris["sepal_length"],ax=axes[0,0])
sns.histplot(iris["sepal_width"],ax=axes[0,1])
sns.histplot(iris["petal_length"],ax=axes[1,0])
sns.histplot(iris["petal_width"],ax=axes[1,1])
```

[13]: <matplotlib.axes._subplots.AxesSubplot at 0x7ffb39086090>


```python
[14]: #For boxplot
fig,axes = plt.subplots(2,2,figsize=(16,10))
sns.boxplot(x="species",y="sepal_length",data=iris,ax=axes[0,0])
sns.boxplot(x="species",y="sepal_width",data=iris,ax=axes[0,1])
sns.boxplot(x="species",y="petal_length",data=iris,ax=axes[1,0])
sns.boxplot(x="species",y="petal_width",data=iris,ax=axes[1,1])
```

[14]: <matplotlib.axes._subplots.AxesSubplot at 0x7ffb38e8b690>

[ ]: