```
import pandas as pd

import seaborn as sns

import matplotlib.pyplot as plt


iris = sns.load_dataset('iris')


print(iris.head())

print(iris.describe())

print(iris.info())
```

```
  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
       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
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   sepal_length  150 non-null    float64
 1   sepal_width   150 non-null    float64
 2   petal_length  150 non-null    float64
 3   petal_width   150 non-null    float64
 4   species       150 non-null    object
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
None
```

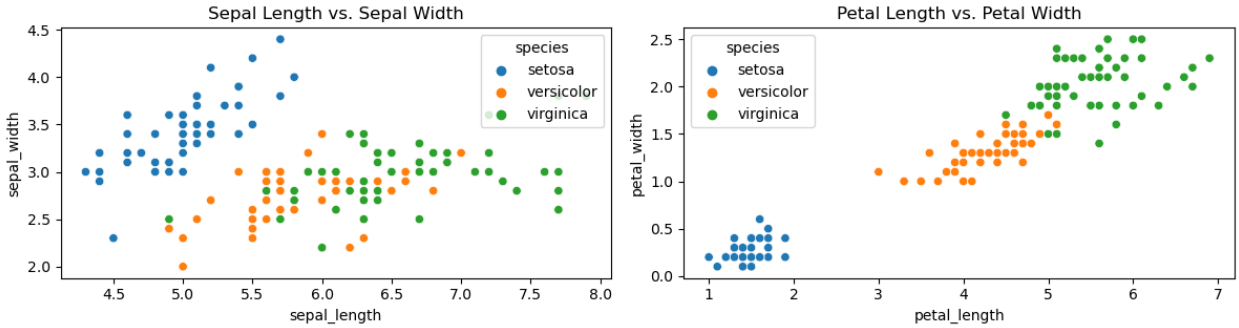
```
grains = iris.sample(n=10, random_state=42)

print(grains)
```

	sepal_length	sepal_width	petal_length	petal_width	species
73	6.1	2.8	4.7	1.2	versicolor
18	5.7	3.8	1.7	0.3	setosa
118	7.7	2.6	6.9	2.3	virginica
78	6.0	2.9	4.5	1.5	versicolor
76	6.8	2.8	4.8	1.4	versicolor
31	5.4	3.4	1.5	0.4	setosa
64	5.6	2.9	3.6	1.3	versicolor
141	6.9	3.1	5.1	2.3	virginica
68	6.2	2.2	4.5	1.5	versicolor
82	5.8	2.7	3.9	1.2	versicolor

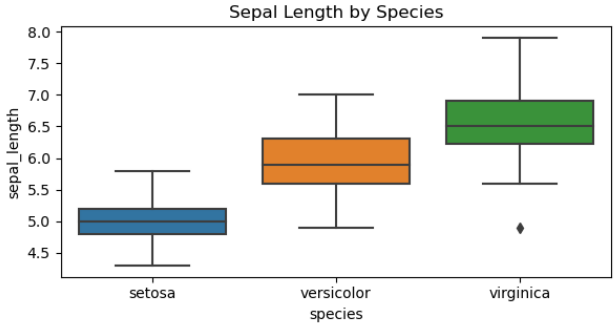
```
fig, axs = plt.subplots(5, 2, figsize=(12, 16))

sns.scatterplot(data=iris, x='sepal_length', y='sepal_width', hue='species', ax=axs[0, 0])

axs[0, 0].set_title('Sepal Length vs. Sepal Width')

sns.scatterplot(data=iris, x='petal_length', y='petal_width', hue='species', ax=axs[0, 1])

axs[0, 1].set_title('Petal Length vs. Petal Width')

sns.boxplot(data=iris, x='species', y='sepal_length', ax=axs[1, 0])

axs[1, 0].set_title('Sepal Length by Species')
```

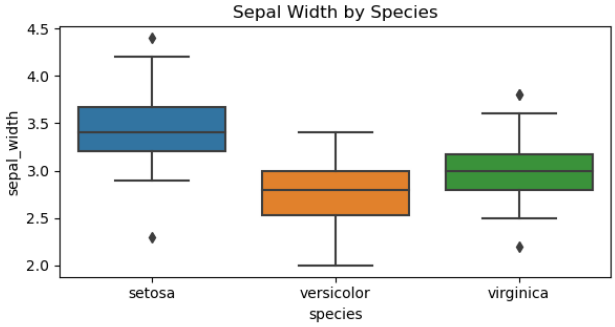
```
sns.boxplot(data=iris, x='species', y='sepal_width', ax=axs[1, 1])
axs[1, 1].set_title('Sepal Width by Species')

sns.boxplot(data=iris, x='species', y='petal_length', ax=axs[2, 0])
axs[2, 0].set_title('Petal Length by Species')

sns.boxplot(data=iris, x='species', y='petal_width', ax=axs[2, 1])
axs[2, 1].set_title('Petal Width by Species')

sns.violinplot(data=iris, x='species', y='sepal_length', ax=axs[3, 0])
axs[3, 0].set_title('Sepal Length by Species')

sns.violinplot(data=iris, x='species', y='sepal_width', ax=axs[3, 1])
axs[3, 1].set_title('Sepal Width by Species')

sns.violinplot(data=iris, x='species', y='petal_length', ax=axs[4, 0])
axs[4, 0].set_title('Petal Length by Species')
```

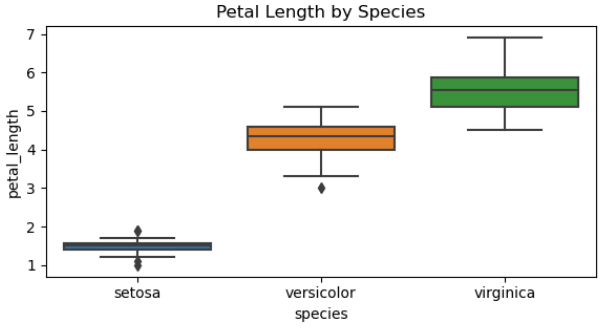
```
sns.violinplot(data=iris, x='species', y='petal_width', ax=axs[4, 1])

axs[4, 1].set_title('Petal Width by Species')



plt.tight_layout()



plt.show()
```

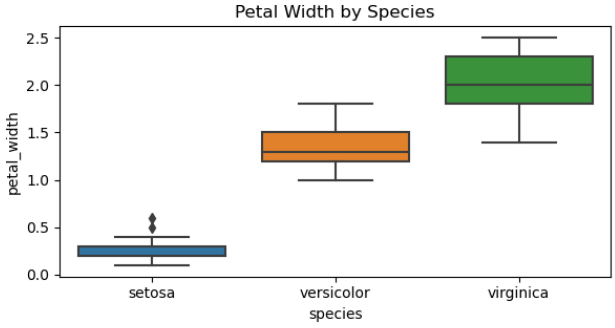

Sepal Length vs. Sepal Width
sepal_width
sepal_length
species
setosa
versicolor
virginica

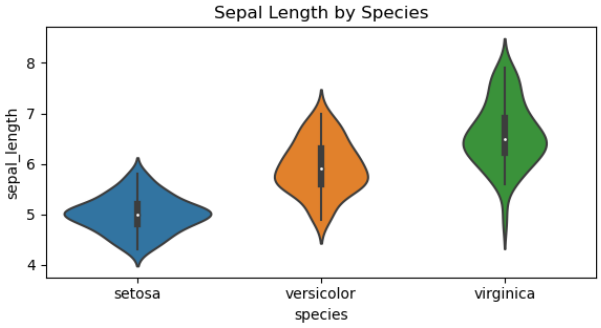
Petal Length vs. Petal Width
petal_width
petal_length
species
setosa
versicolor
virginica

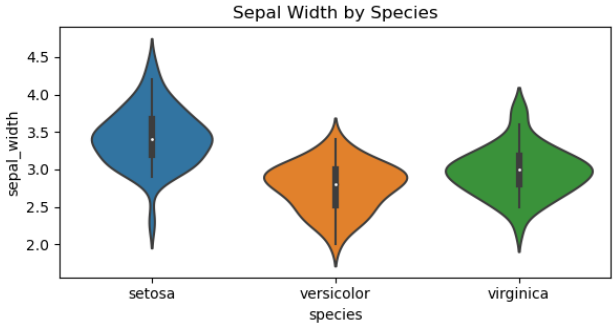

Sepal Length by Species
sepal_length
setosa
versicolor
virginica
species

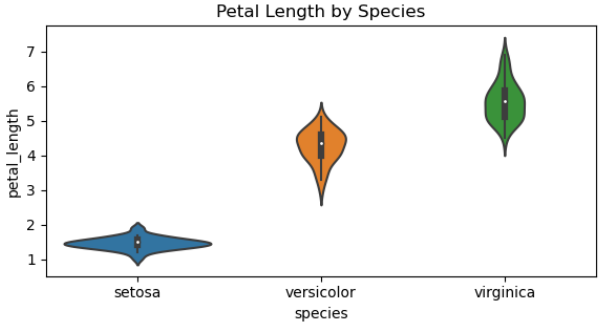

Sepal Width by Species
sepal_width
setosa
versicolor
virginica
species

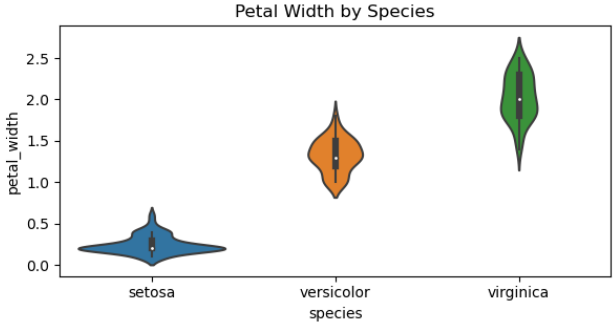

Petal Length by Species
petal_length
setosa
versicolor
virginica
species


Petal Width by Species
petal_width
setosa
versicolor
virginica
species


Sepal Length by Species
sepal_length
setosa
versicolor
virginica
species


Sepal Width by Species
sepal_width
setosa
versicolor
virginica
species


Petal Length by Species
petal_length
setosa
versicolor
virginica
species


Petal Width by Species
petal_width
setosa
versicolor
virginica
species