

Matplot 1

June 17, 2023

1 Data Visualization

1.1 Step 1 : Import Libraries

```
[ ]: import seaborn as sns
import matplotlib.pyplot as plt
```

1.2 Step 2 : Load Dataset

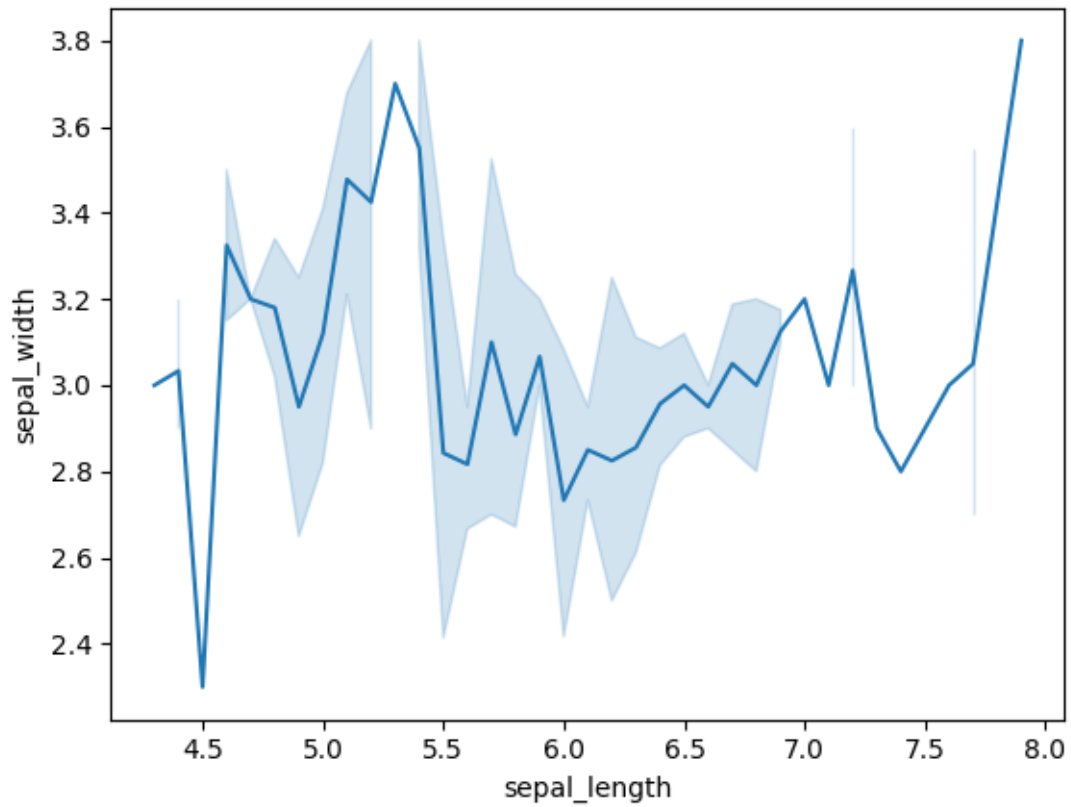
```
[ ]: import seaborn as sns
iris=sns.load_dataset("iris")
iris.head()
```

```
[ ]:      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
```

1.3 Step 3 : Plot a Graph

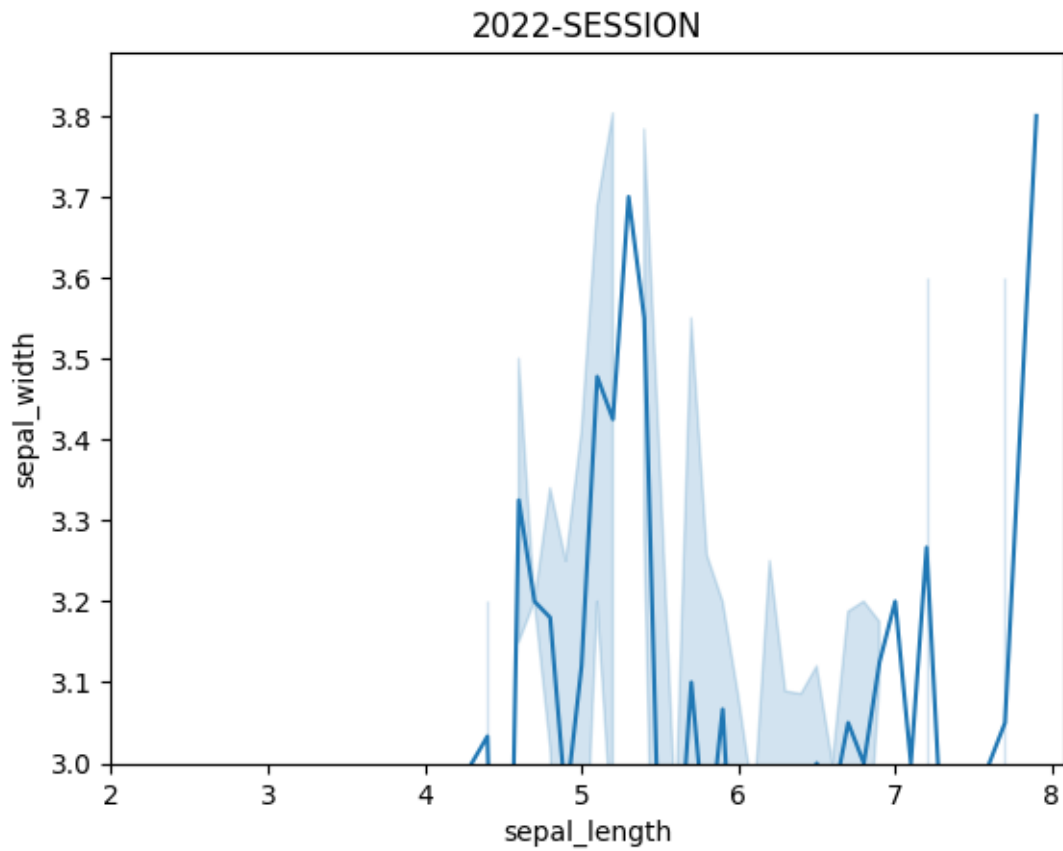
```
[ ]: sns.lineplot(x="sepal_length",y="sepal_width",data=iris)
```

```
[ ]: <Axes: xlabel='sepal_length', ylabel='sepal_width'>
```



```
[ ]: import matplotlib.pyplot as plt
sns.lineplot(x="sepal_length",y="sepal_width",data=iris)
plt.xlim(2)
plt.ylim(3)
plt.title("2022-SESSION")
```

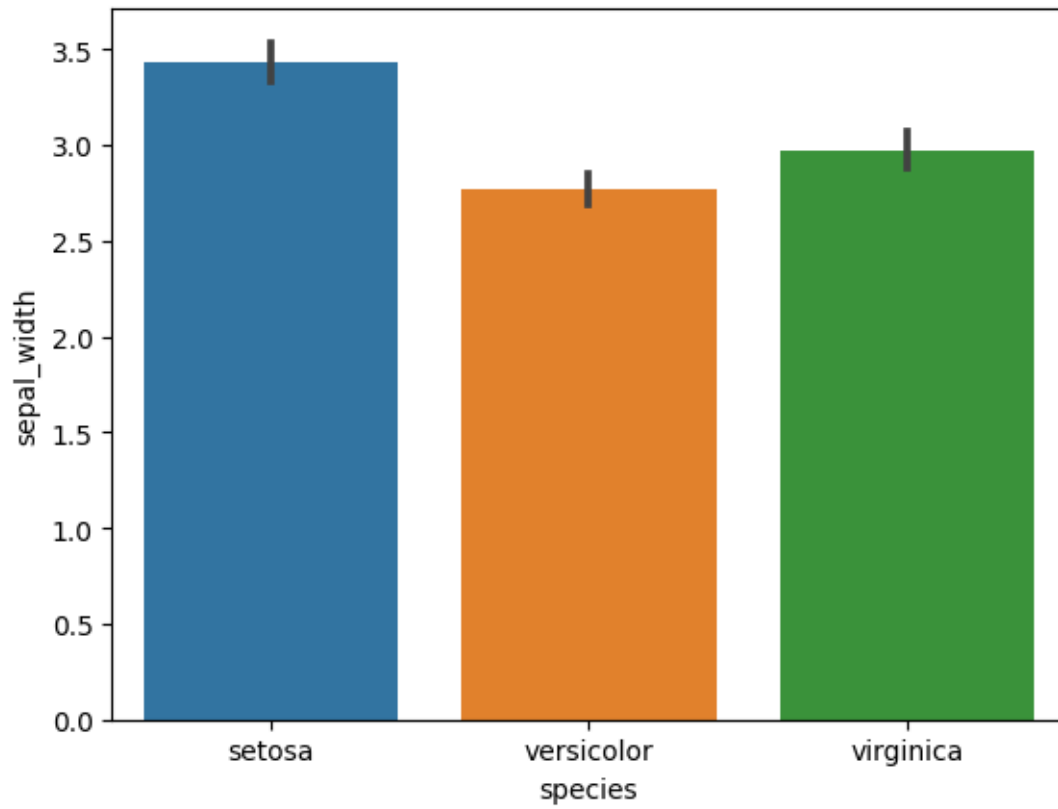
```
[ ]: Text(0.5, 1.0, '2022-SESSION')
```



1.4 Bar Plot

```
[ ]: sns.barplot(x="species",y="sepal_width",data=iris)
```

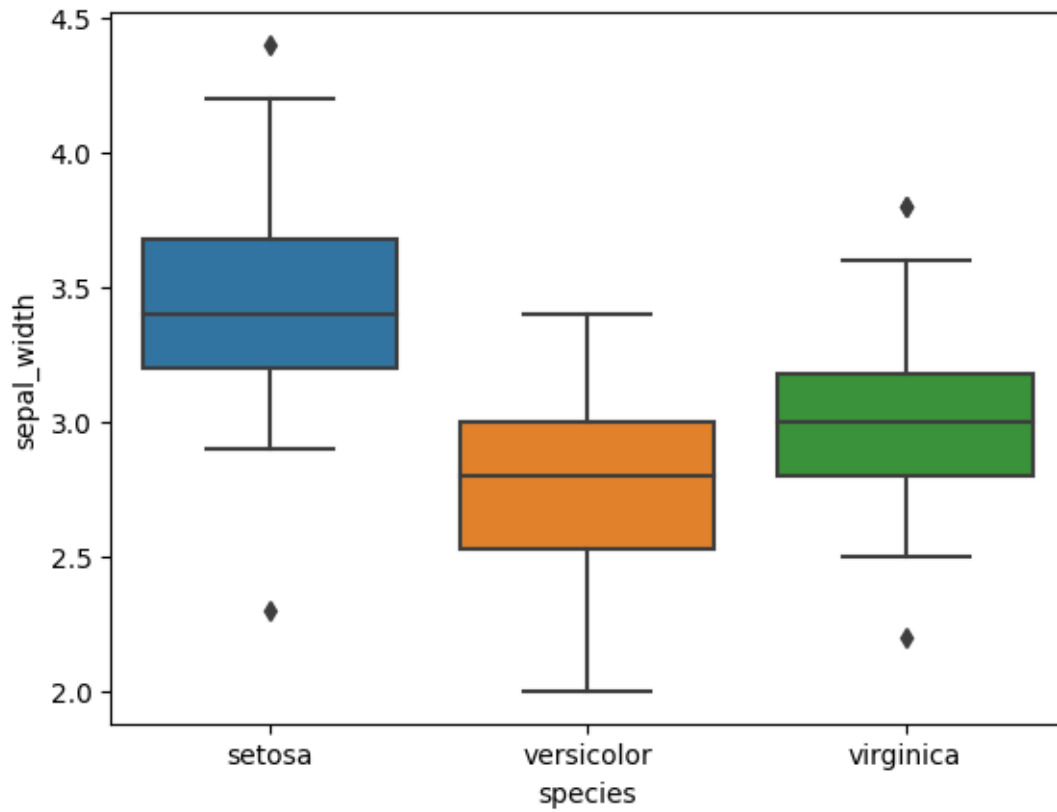
```
[ ]: <Axes: xlabel='species', ylabel='sepal_width'>
```



1.5 Box Plot

```
[ ]: sns.boxplot(x="species",y="sepal_width",data=iris)
```

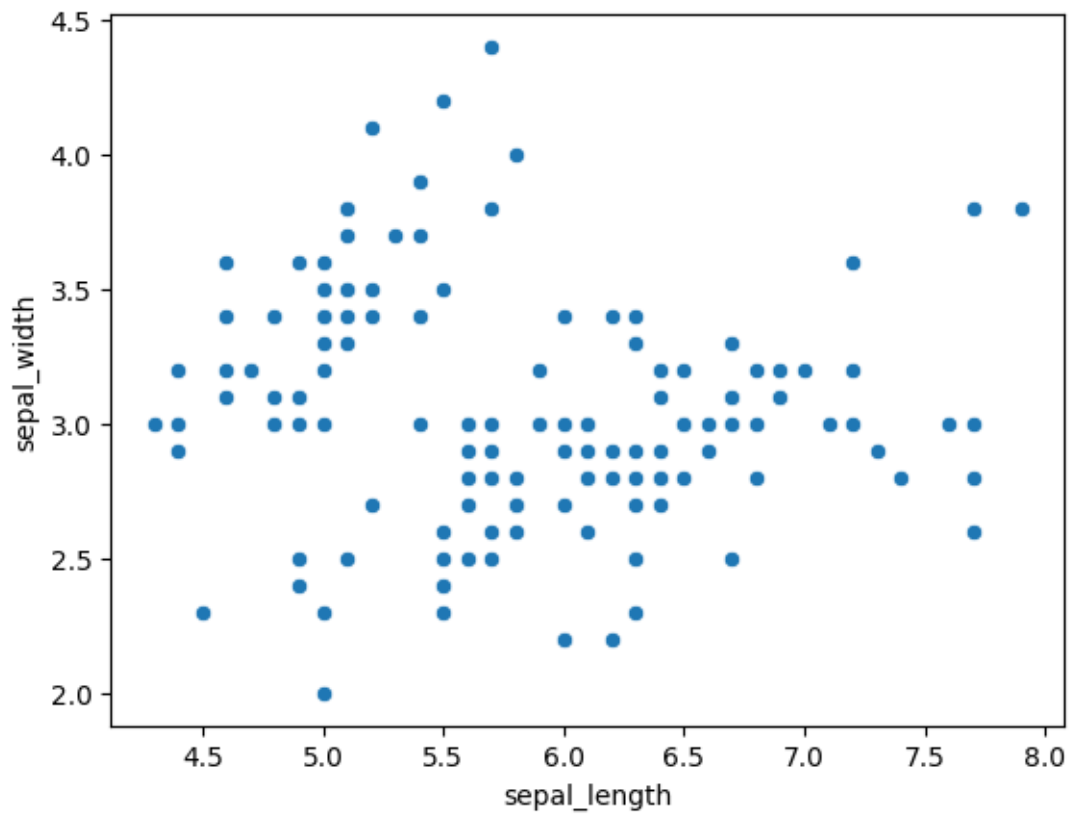
```
[ ]: <Axes: xlabel='species', ylabel='sepal_width'>
```



1.6 Scatter Plot

```
[ ]: sns.scatterplot(x="sepal_length",y="sepal_width",data=iris)
```

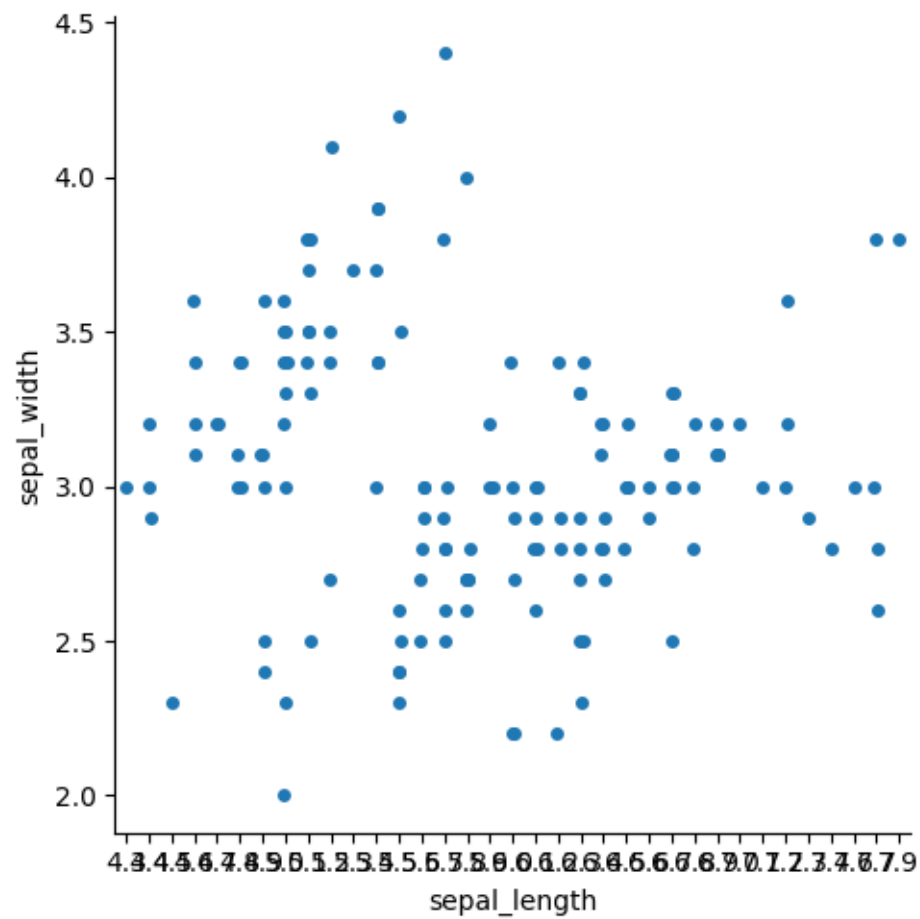
```
[ ]: <Axes: xlabel='sepal_length', ylabel='sepal_width'>
```



1.7 Cat Plot

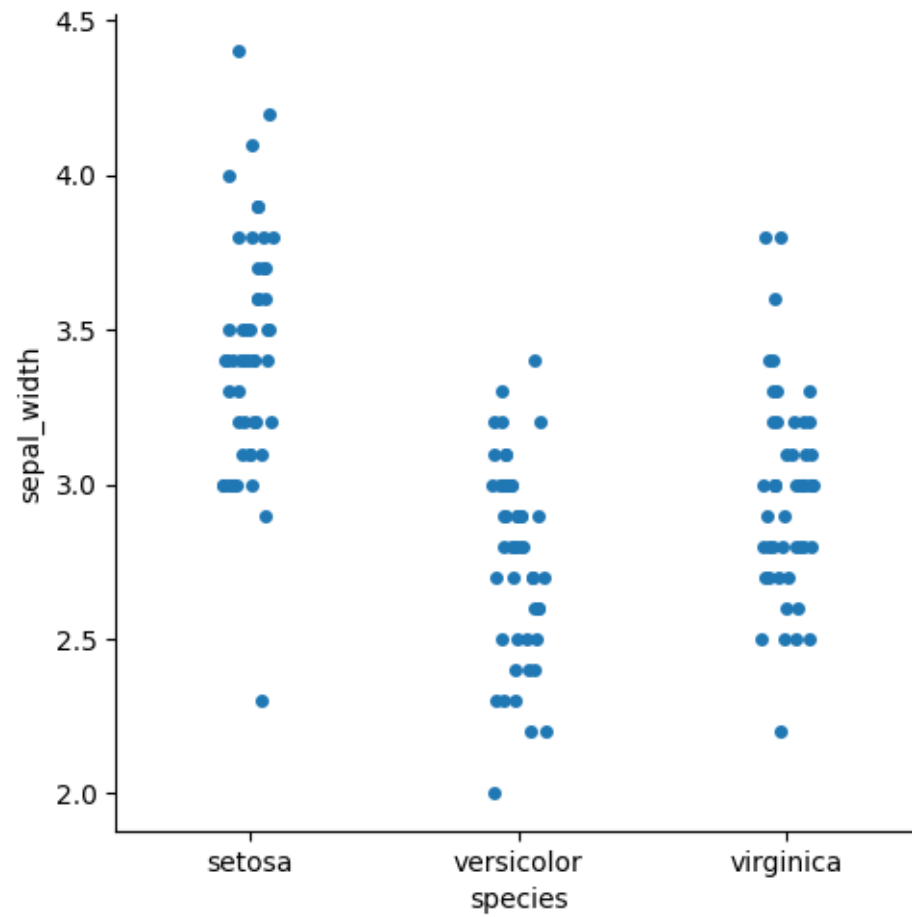
```
[ ]: sns.catplot(x="sepal_length",y="sepal_width",data=iris)
```

```
[ ]: <seaborn.axisgrid.FacetGrid at 0x2b0555e5b50>
```



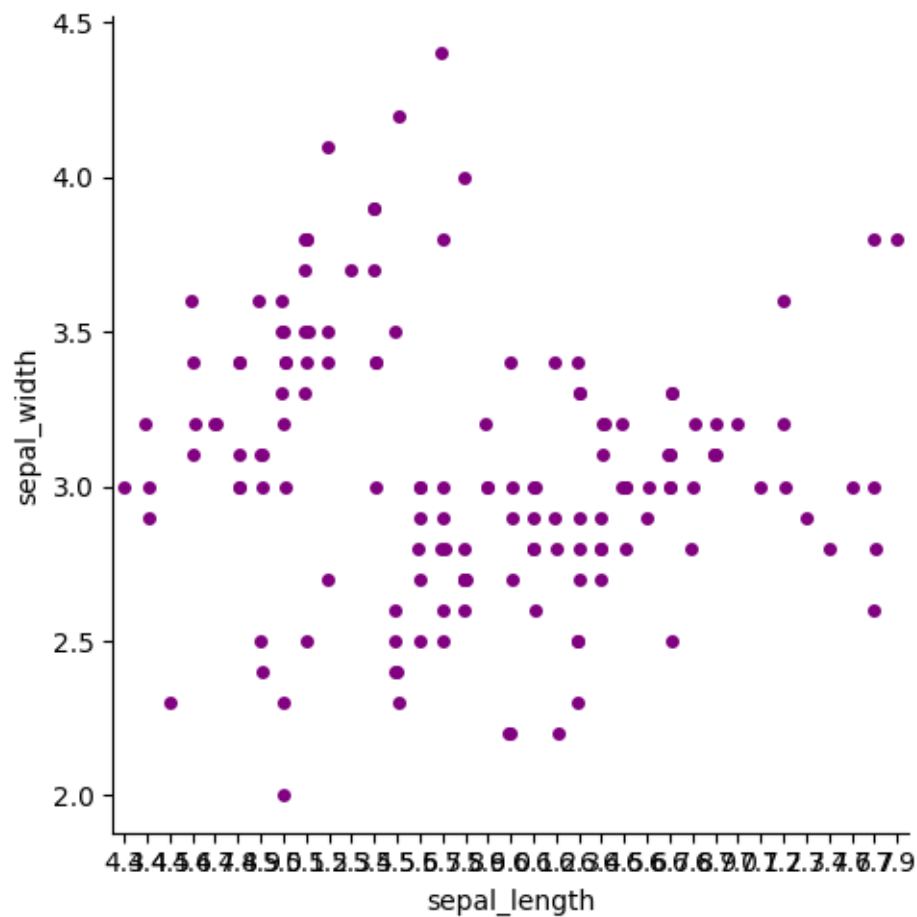
```
[ ]: sns.catplot(x="species",y="sepal_width",data=iris)
```

```
[ ]: <seaborn.axisgrid.FacetGrid at 0x2b0557fa2d0>
```



```
[ ]: sns.catplot(x="sepal_length",y="sepal_width",data=iris,color="purple")
```

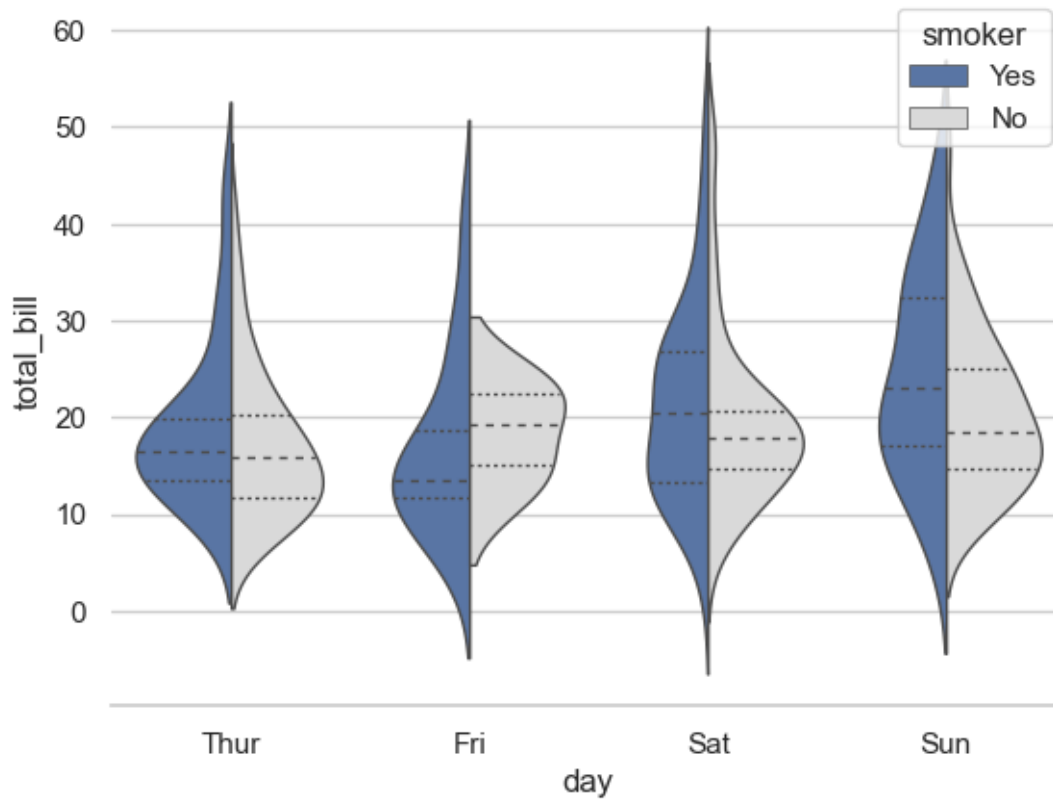
```
[ ]: <seaborn.axisgrid.FacetGrid at 0x2b0557fb610>
```

```
[ ]: import seaborn as sns
sns.set_theme(style="whitegrid")

# Load the example tips dataset
tips = sns.load_dataset("tips")

# Draw a nested violinplot and split the violins for easier comparison
sns.violinplot(data=tips, x="day", y="total_bill", hue="smoker",
               split=True, inner="quart", linewidth=1,
               palette={"Yes": "b", "No": ".85"})
sns.despine(left=True)
```

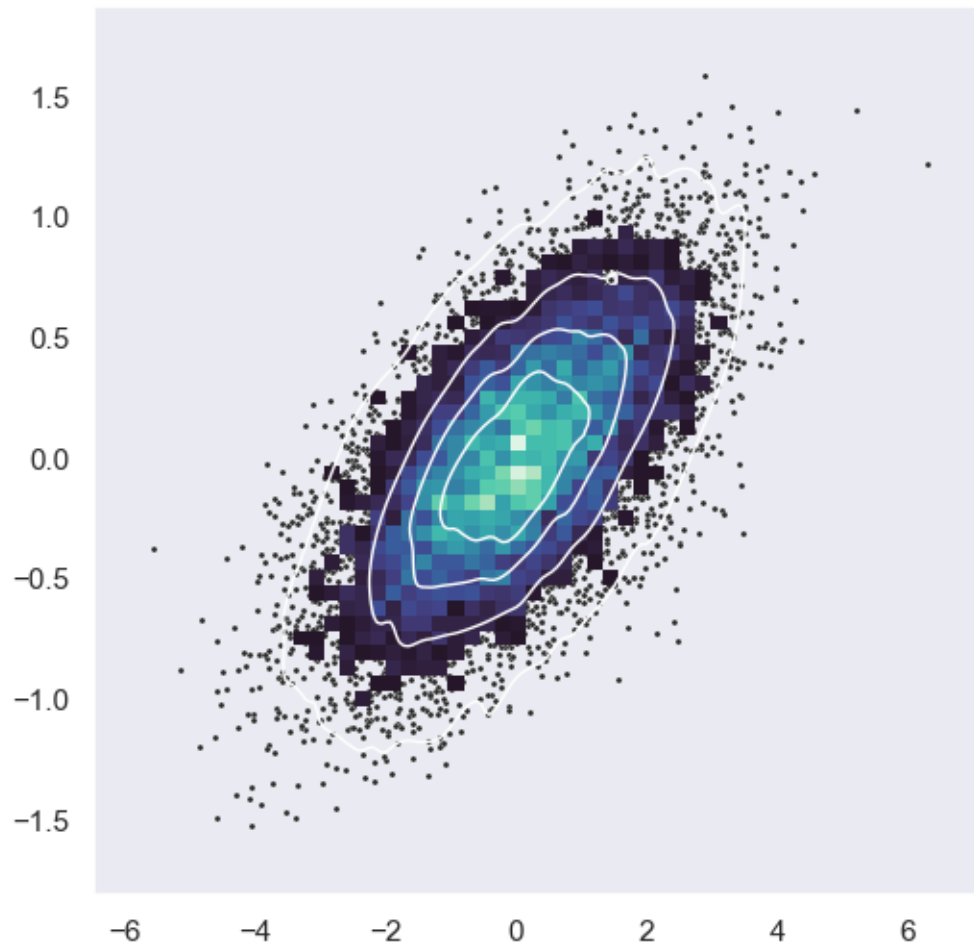


```
[ ]: import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="dark")

# Simulate data from a bivariate Gaussian
n = 10000
mean = [0, 0]
cov = [(2, .4), (.4, .2)]
rng = np.random.RandomState(0)
x, y = rng.multivariate_normal(mean, cov, n).T

# Draw a combo histogram and scatterplot with density contours
f, ax = plt.subplots(figsize=(6, 6))
sns.scatterplot(x=x, y=y, s=5, color=".15")
sns.histplot(x=x, y=y, bins=50, pthresh=.1, cmap="mako")
sns.kdeplot(x=x, y=y, levels=5, color="w", linewidths=1)
```

```
[ ]: <Axes: >
```



```
[ ]: pip install plotly
```

```
Collecting plotly
  Downloading plotly-5.14.1-py2.py3-none-any.whl (15.3 MB)
----- 15.3/15.3 MB 153.8 kB/s eta 0:00:00
Collecting tenacity>=6.2.0
  Downloading tenacity-8.2.2-py3-none-any.whl (24 kB)
Requirement already satisfied: packaging in
c:\users\shera\appdata\roaming\python\python311\site-packages (from plotly)
(23.1)
Installing collected packages: tenacity, plotly
Successfully installed plotly-5.14.1 tenacity-8.2.2
Note: you may need to restart the kernel to use updated packages.
```

```
[notice] A new release of pip available: 22.3.1 -> 23.1.2
```

```
[notice] To update, run: python.exe -m pip install --upgrade pip
```

```
[ ]: import plotly.express as px
gapminder = px.data.gapminder()
fig = px.scatter(gapminder, x="gdpPercap", y="lifeExp", animation_frame="year",
    ↪animation_group="country",
        size="pop", color="continent", hover_name="country")
fig.show()
```