

DATA VISUALIZATION

STEP 1 IMPORT LIBRARIES

```
import seaborn as sns
import matplotlib.pyplot as plt
```

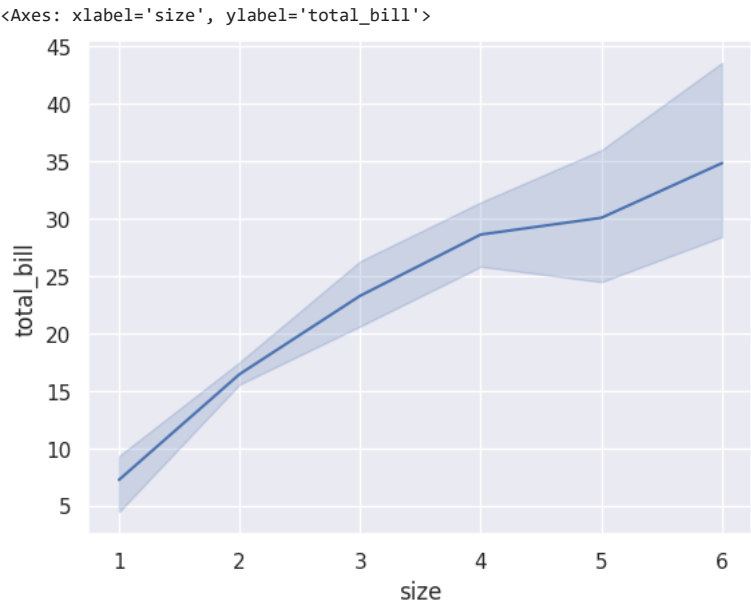
STEP 2 LOAD DATA SET

```
tips = sns.load_dataset("tips")
tips.head()
```

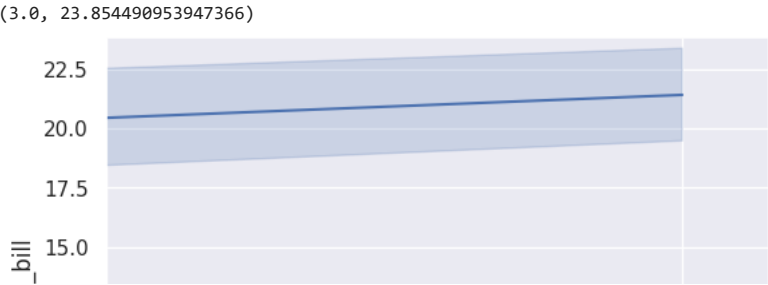
	total_bill	tip	sex	smoker	day	time	size	
0	16.99	1.01	Female	No	Sun	Dinner	2	
1	10.34	1.66	Male	No	Sun	Dinner	3	
2	21.01	3.50	Male	No	Sun	Dinner	3	
3	23.68	3.31	Male	No	Sun	Dinner	2	
4	24.59	3.61	Female	No	Sun	Dinner	4	

STEP-3 PLOT A GRAPH

```
sns.lineplot(x="size" , y="total_bill", data=tips)
```



```
sns.lineplot(x="day" , y="total_bill", data=tips)
plt.xlim(2)
plt.ylim(3)
```

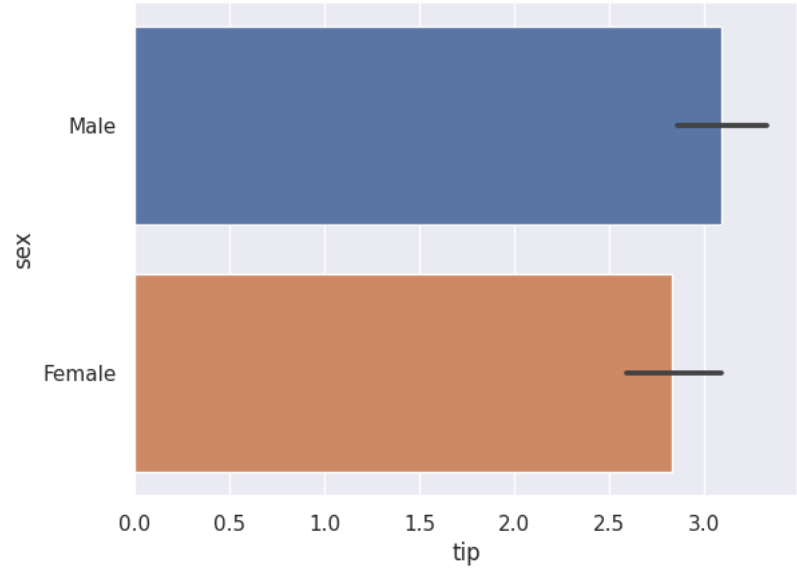


BAR PLOT



```
sns.barplot(x="tip" , y="sex", data=tips)
```

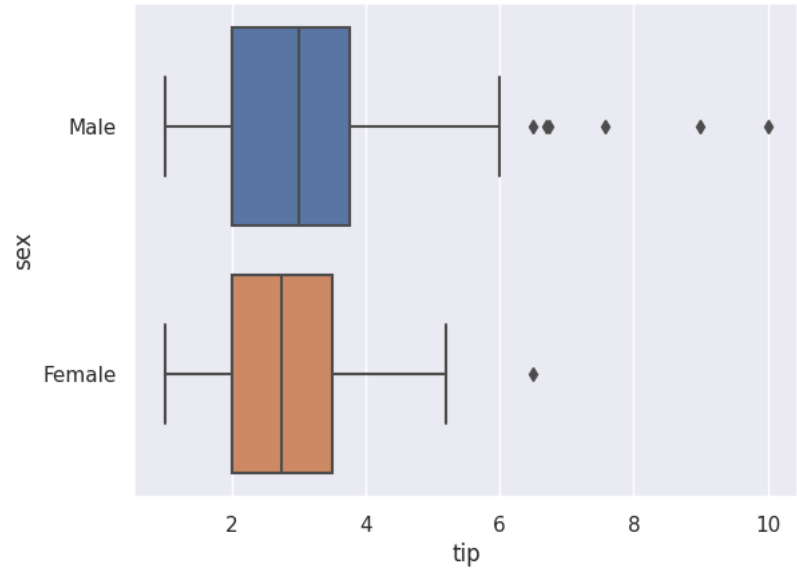
<Axes: xlabel='tip', ylabel='sex'>



BOX PLOT

```
sns.boxplot(x="tip" , y="sex", data=tips)
```

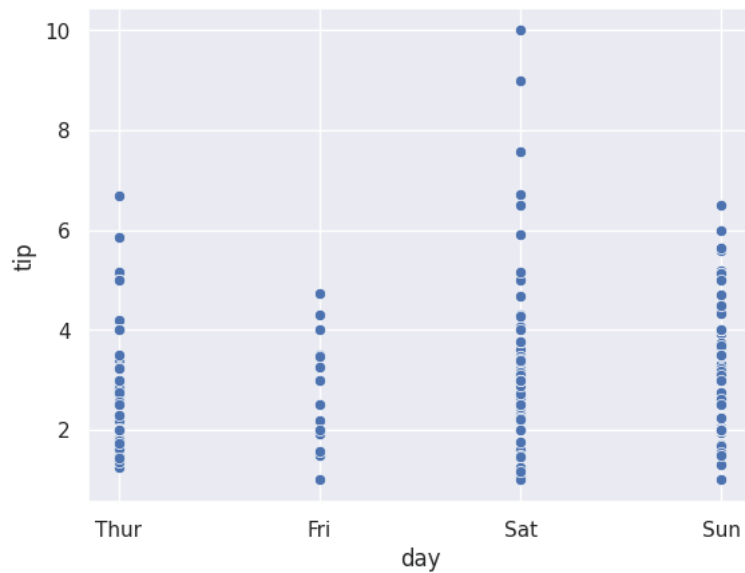
<Axes: xlabel='tip', ylabel='sex'>



SCATTER PLOT

```
sns.scatterplot(x="day" , y="tip", data=tips)
```

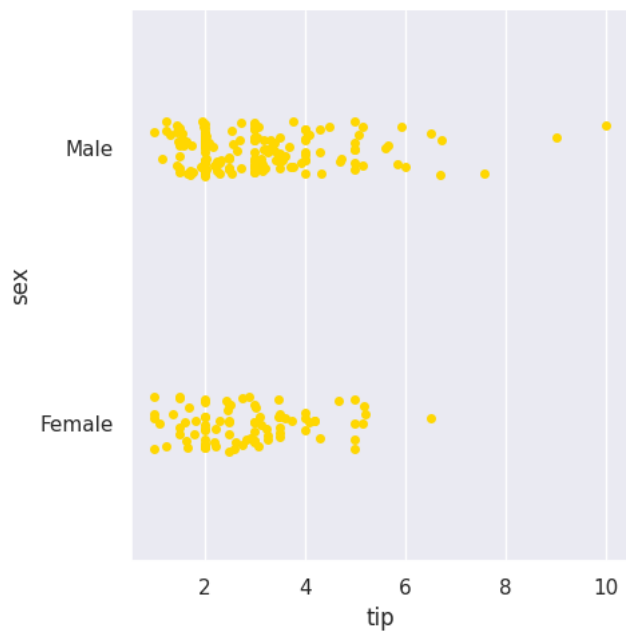
<Axes: xlabel='day', ylabel='tip'>



▼ CAT PLOR

```
sns.catplot(x="tip" , y="sex", data=tips , color="gold")
```

<seaborn.axisgrid.FacetGrid at 0x7f0c4212e110>



```
import seaborn as sns
sns.set_theme(style="white")
```

```
df = sns.load_dataset("penguins")
```

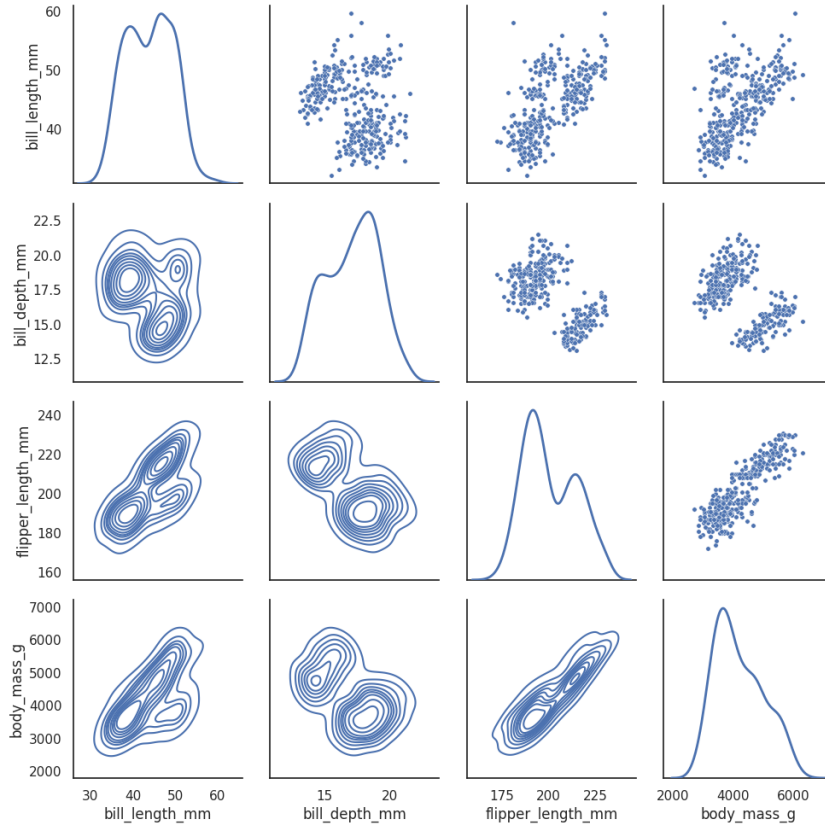
```
g = sns.PairGrid(df, diag_sharey=False)
```

```
g.map_upper(sns.scatterplot, s=15)
```

```
g.map_lower(sns.kdeplot)
```

```
g.map_diag(sns.kdeplot, lw=2)
```

<seaborn.axisgrid.PairGrid at 0x7f0c475c1ae0>



```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="white", rc={"axes.facecolor": (0, 0, 0, 0)})

# Create the data
rs = np.random.RandomState(1979)
x = rs.randn(500)
g = np.tile(list("ABCDEFGHIJ"), 50)
df = pd.DataFrame(dict(x=x, g=g))
m = df.g.map(ord)
df["x"] += m

# Initialize the FacetGrid object
pal = sns.cubehelix_palette(10, rot=-.25, light=.7)
g = sns.FacetGrid(df, row="g", hue="g", aspect=15, height=.5, palette=pal)

# Draw the densities in a few steps
g.map(sns.kdeplot, "x",
      bw_adjust=.5, clip_on=False,
      fill=True, alpha=1, linewidth=1.5)
g.map(sns.kdeplot, "x", clip_on=False, color="w", lw=2, bw_adjust=.5)

# passing color=None to refline() uses the hue mapping
g.refline(y=0, linewidth=2, linestyle="-", color=None, clip_on=False)

# Define and use a simple function to label the plot in axes coordinates
def label(x, color, label):
    ax = plt.gca()
    ax.text(0, .2, label, fontweight="bold", color=color,
          ha="left", va="center", transform=ax.transAxes)

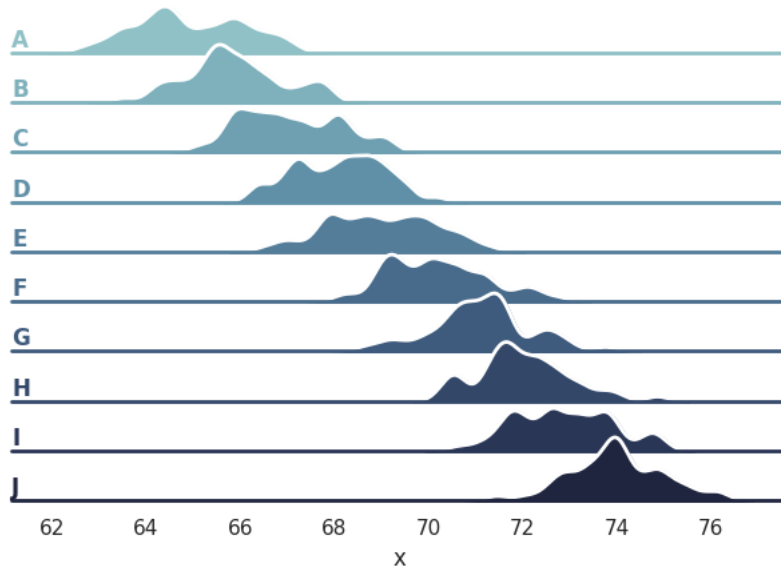
g.map(label, "x")

# Set the subplots to overlap
g.figure.subplots_adjust(hspace=-.25)

# Remove axes details that don't play well with overlap
g.set_titles("")
```

```
g.set(yticks=[], ylabel="")
g.despine(bottom=True, left=True)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/axisgrid.py:118: UserWarning: Tight
self._figure.tight_layout(*args, **kwargs)
/usr/local/lib/python3.10/dist-packages/seaborn/axisgrid.py:118: UserWarning: Tight
self._figure.tight_layout(*args, **kwargs)
/usr/local/lib/python3.10/dist-packages/seaborn/axisgrid.py:118: UserWarning: Tight
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self._figure.tight_layout(*args, **kwargs)
/usr/local/lib/python3.10/dist-packages/seaborn/axisgrid.py:118: UserWarning: Tight
self._figure.tight_layout(*args, **kwargs)
<seaborn.axisgrid.FacetGrid at 0x7f0c41fed7e0>
```



▼ HEAT MAP

```
import matplotlib.pyplot as plt
import seaborn as sns
sns.set_theme()

# Load the example flights dataset and convert to long-form
flights_long = sns.load_dataset("flights")
flights = flights_long.pivot("month", "year", "passengers")

# Draw a heatmap with the numeric values in each cell
f, ax = plt.subplots(figsize=(9, 6))
sns.heatmap(flights, annot=True, fmt="d", linewidths=.5, ax=ax)
```

```
<Axes: xlabel='year', ylabel='month'>
```



```
import plotly.express as px
fig = px.scatter(tips, x="tip" , y="day" , color="day" )
fig.show()
```

