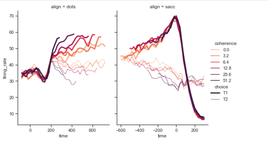
Line plot with multifacets

Note: The examples used in this notebook are taken from Seaborn documentation.

In [ ]:
```
# Import libraries
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

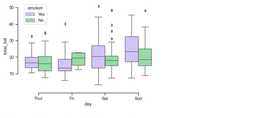
Line plots on multiple facets

In [ ]:
```
sns.set_theme(style="ticks")

dots = sns.load_dataset("dots")

# Define the palette as a list to specify exact values
palette = sns.color_palette("rocket_r")

# Plot the lines on two facets
sns.relplot(
    data=dots,
    x="time", y="firing_rate",
    hue="coherence", size="choice", col="align",
    kind="line", size_order=["T1", "T2"], palette=palette,
    height=5, aspect=.75, facet_kws=dict(sharex=False),
);
```



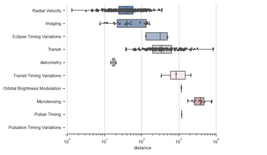
Grouped boxplots

In [ ]:
```
sns.set_theme(style="ticks", palette="pastel")

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

# Draw a nested boxplot to show bills by day and time
sns.boxplot(x="day", y="total_bill",
            hue="smoker", palette=["m", "g"],
            data=tips)
sns.despine(offset=10, trim=True)
```



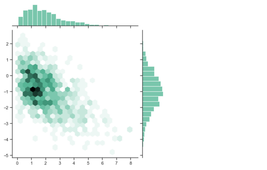
Horizontal boxplot with observations

In [ ]:
```
sns.set_theme(style="ticks")

# Initialize the figure with a logarithmic x axis
f, ax = plt.subplots(figsize=(7, 6))
ax.set_xscale("log")

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

# Plot the orbital period with horizontal boxes
sns.boxplot(x="distance", y="method", data=planets,
            whis=[0, 100], width=.6, palette="vlag")

# Add in points to show each observation
sns.stripplot(x="distance", y="method", data=planets,
              size=4, color=".3", linewidth=0)

# Tweak the visual presentation
ax.xaxis.grid(True)
ax.set(ylabel="")
sns.despine(trim=True, left=True)
```



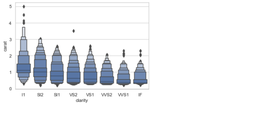
Hexbin plot with marginal distributions

In [ ]:
```
sns.set_theme(style="ticks")

rs = np.random.RandomState(11)
x = rs.gamma(2, size=1000)
y = -.5 * x + rs.normal(size=1000)

sns.jointplot(x=x, y=y, kind="hex", color="#4CB391");
```



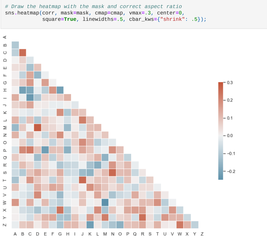
Plotting large distributions

In [ ]:
```
sns.set_theme(style="whitegrid")

diamonds = sns.load_dataset("diamonds")
clarity_ranking = ["I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]

sns.boxenplot(x="clarity", y="carat",
              color="b", order=clarity_ranking,
              scale="linear", data=diamonds);
```



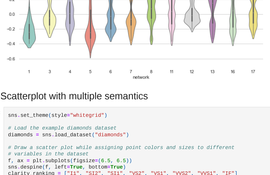
Plotting a diagonal correlation matrix

In [ ]:
```
from string import ascii_letters

sns.set_theme(style="white")

# Generate a large random dataset
rs = np.random.RandomState(33)
d = pd.DataFrame(data=rs.normal(size=(100, 26)),
                 columns=list(ascii_letters[26:]))

# Compute the correlation matrix
corr = d.corr()

# Generate a mask for the upper triangle
mask = np.triu(np.ones_like(corr, dtype=bool))

# Set up the matplotlib figure
f, ax = plt.subplots(figsize=(11, 9))

# Generate a custom diverging colormap
cmap = sns.diverging_palette(230, 20, as_cmap=True)

# Draw the heatmap with the mask and correct aspect ratio
sns.heatmap(corr, mask=mask, cmap=cmap, vmax=.3, center=0,
            square=True, linewidths=.5, cbar_kws={"shrink": .5});
```



Violinplot from a wide-form dataset

In [ ]:
```
sns.set_theme(style="whitegrid")

# Load the example dataset of brain network correlations
df = sns.load_dataset("brain_networks", header=[0, 1, 2], index_col=0)

# Pull out a specific subset of networks
used_networks = [1, 3, 4, 5, 6, 7, 8, 11, 12, 13, 16, 17]
used_columns = (df.columns.get_level_values("network")
                          .astype(int)
                          .isin(used_networks))
df = df.loc[:, used_columns]

# Compute the correlation matrix and average over networks
corr_df = df.corr().groupby(level="network").mean()
corr_df.index = corr_df.index.astype(int)
corr_df = corr_df.sort_index().T

# Set up the matplotlib figure
f, ax = plt.subplots(figsize=(11, 6))

# Draw a violinplot with a narrower bandwidth than the default
sns.violinplot(data=corr_df, palette="Set3", bw=.2, cut=1, linewidth=1)

# Finalize the figure
ax.set(ylim=(-.7, 1.05))
sns.despine(left=True, bottom=True);
```



Scatterplot with multiple semantics

In [ ]:
```
sns.set_theme(style="whitegrid")

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

# Draw a scatter plot while assigning point colors and sizes to different
# variables in the dataset
f, ax = plt.subplots(figsize=(6.5, 6.5))
sns.despine(f, left=True, bottom=True)
clarity_ranking = ["I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]
sns.scatterplot(x="carat", y="price",
                hue="clarity", size="depth",
                palette="ch:r=-.2,d=.3_r",
                hue_order=clarity_ranking,
                sizes=(1, 8), linewidth=0,
                data=diamonds, ax=ax);
```