import matplotlib.pyplot as plt

import seaborn as sns

**pH = wine**

**ax = sns.boxplot(wine['pH'])**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.scatterplot(x = 'week', y = 'resp', data = patient)**

**sns.lineplot(x = "week", y = "resp", data = patient)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.kdeplot(airline\_a, shade = True, label = "A")

**sns.kdeplot(airline\_b, shade = True, label = 'B')**

plt.legend()

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**ax = sns.violinplot()**

**ax = sns.violinplot(x=happiness['Generosity'])**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.swarmplot(x="measurement",

y="value",

**="species",**

**hue="species",**

data=iris)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.histplot(avocado.AveragePrice)

ax.axvline(x=1.75, label="Break Even", linestyle='--')

**ax.legend()**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.boxplot(x='score')**

**sns.boxplot(x = "Score", data = results)**

plt.show()

Which of the following statements explains the key difference between a violin plot and a box plot?



A violin plot shows the distribution of the data rather than summary statistics.

import matplotlib.pyplot as plt

import seaborn as sns

import pandas as pd

city\_temp = city\_temp.pivot('month', 'city', 'temp')

**sns.()**

**sns.heatmap(data = city\_temp)**

plt.xticks(rotation = 45)

plt.yticks(rotation = 45)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(data=tools)

**plt.show()**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.(x = "age", y = "value", = "emissions", data = valuation)**

**sns.scatterplot(x = "age", y = "value", hue = "emissions", data = valuation)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.lineplot(data=tools)

plt.show()

**sns.savefig("searched\_by\_tool.png")**

**plt.savefig("searched\_by\_tool.png")**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.graphplot(rc={'grid.color':'slategray', "grid.linestyle":"--", "font.size":20})**

**sns.set\_style(rc={'grid.color':'slategray', "grid.linestyle":"--", "font.size":20})**

ax = sns.lineplot(data=tools)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**ax = sns.scatterplot(x="citric acid", y="pH", data=wine, point='+')**

**ax = sns.scatterplot(x="citric acid", y="pH", data=wine, marker='+')**

plt.show()

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.lineplot(x="Month", y="Total", hue="Sector", data=sales, ci=None)

**np.arange(1,13,1)(ax.set\_xticks)**

**ax.set\_xticks(np.arange(1,13,1))**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.lineplot(x='days', y='cases', data=incidence)

**plt.log()**

**ax.set\_yscale("log")**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.violinplot(x=happiness['Generosity'])

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**ax = barplot(data=df)**

**ax = sns.barplot(x="Grade", y="Count", data=df)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax=sns.boxplot(x='Type', y='Si', data = glass)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.violinplot(x = 'airline', y = 'delay', data = arrivals)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

corr\_data = valuation.corr()

sns.heatmap(corr\_data)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**ax = scatterplot()**

**ax = sns.scatterplot(x="GDP per capita", y="Score", hue="Generosity", data=happiness)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.histplot(avocado.AveragePrice)

ax.axvline(x=1.75, label="Break Even", linestyle='--')

**plt.legend**

**ax.legend()**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(rc={'grid.color':'slategray', "grid.linestyle":"--", "font.size":20})

ax = sns.lineplot(data=tools)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.scatterplot(x = 'age', y = 'value', data = valuation)**

**sns.jointplot(x = 'age', y = 'value', data = valuation)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

g = sns.jointplot(

x="BPM",

y="Popularity",

data=top50,

**kind="scatter"**

**kind="reg"**

)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.( = 'week', = 'resp', = 'subj', data = patient)**

**sns.lineplot(x = 'week', y = 'resp', style = 'subj', data = patient)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.boxplot(results['Score'])

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**ax=sns.lineplot(data=dam\_level)**

valuation

plt.xticks(rotation=45)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(x='week', y = 'mean', data = patient)

**plt.savefig("myplot.png")**

import matplotlib.pyplot as plt

import seaborn as sns

corr\_data = valuation.corr()

sns.heatmap(corr\_data)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.pairplot(heart, kde)**

**sns.pairplot(heart, diag\_kind="kde")**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(data=steam,

x="temp",

y="usage")

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.barplot(x="Grade", y="Count", data=df)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.lineplot(x='date',y='level', data=dam\_levels)**

**sns.lineplot(x="date", y="level", hue="dam", data=dam\_levels)**

plt.xticks(rotation=45)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.(x = 'age', y = 'value', data = valuation)**

**sns.jointplot(x = 'age', y = 'value', data = valuation)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.lineplot(data = trace)**

**sns.lineplot(x = 'date', y = 'value', data = trace)**

plt.xticks(rotation = 90)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.lineplot(x="Month", y="Total", hue="Sector", data=sales, ci=None)

ax.set\_xlabel("Month")

ax.set\_ylabel("Total Monthly Sales")

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax=sns.boxplot(x='Type', y='Si', data = glass)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.violinplot(

x="sex",

y="chol",

data=heart,

**target=0,**

**hue="target",**

**split=True**

)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="Culmen Length (mm)", y="Body Mass (g)", hue = "Sex", data=penguins)

ax.set\_title("Chinstrap Penguins: Bill Length vs Body Mass")

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="Social support", y="Score", data=happy)

ax.set\_title("Happiness Score vs Social Support")

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.scatterplot(x="citric acid", y="pH", data=wine)

arrow\_properties = dict(facecolor='black', shrink=0.05)

plt.annotate('Outlier', xy=(1.0, 2.7), xytext=(0.9, 3.0), arrowprops=arrow\_properties)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="sepal\_length", y="sepal\_width", data=df)

**plt.txt(xlabel="Sepal Length (cm)", ylabel="Sepal Width (cm)")**

**ax.set(xlabel="Sepal Length (cm)", ylabel="Sepal Width (cm)")**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**g = sns.scatterplot(data=penguins,**

**g = sns.relplot(data=penguins,**

x="Body Mass (g)",

y="Flipper Length (mm)",

**row = "Species",**

**col = "Species",**

kind="scatter"

)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.scatterplot(x = "age", y = "value", value = "mpg", data = valuation)**

**sns.scatterplot(x = "age", y = "value", size = "mpg", data = valuation)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

**sns.violinplot(x='Type', y=Si, data=glass)**

**ax = sns.violinplot(x="Type", y="Si", data=glass)**

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(x = "week", y = "resp", data = patient)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(x = 'date', y = 'value', data = trace)

plt.xticks(rotation = 90)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

import pandas as pd

city\_temp = city\_temp.pivot('month', 'city', 'temp')

**sns.sns.heatmap(data = city\_temp)**

**sns.heatmap(data = city\_temp)**

plt.xticks(rotation = 45)

plt.yticks(rotation = 45)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="GDP per capita", y="Score", hue="Generosity", data=happiness)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.jointplot(x = 'age', y = 'value', data = valuation)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.pairplot(song\_metrics)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.boxplot(x = 'airline', y = 'delay', data = arrivals)

sns.stripplot(x = 'airline', y = 'delay', data = arrivals, color = 'black')

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.violinplot(x = 'Score', y = 'Class', data = scores)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

sns.set\_context(rc={"font.size":18})

ax = sns.boxplot(

x="species",

y="sepal\_length",

data=iris,

**data=["virginica", "versicolor", "setosa"]**

**order=["virginica", "versicolor", "setosa"]**

)

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

g = sns.FacetGrid(tools, col="Tool")

g.map(plt.plot, "Searches")

plt.show()

import matplotlib.pyplot as plt

import seaborn as sns

g = sns.FacetGrid(tools, row="Tool")

g.map(plt.plot, "Searches")

plt.show()

Label the x axis as Sepal Length (cm) and the y axis as Sepal Width (cm)

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="sepal\_length", y="sepal\_width", data=df)

ax.set(xlabel="Sepal Length (cm)", ylabel="Sepal Width (cm)")

plt.show()

You are investigating incidence of disease over 100 days. Between days 35 and 65 a series of tests were carried out, and you want to highlight this region on the graphic you are creating. Create a purple shaded region between these dates.

**Select the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.lineplot(x='days', y='cases', data=incidence)

ax.set\_yscale("log")

**ax.fillbetweenx(35, 65, alpha=0.5, color="purple")**

**ax.axvspan(35, 65, alpha=0.5, color="purple")**

plt.show()

You are analyzing the arrival delays of aircraft at an airport. A sample of the data is shown below. Create a plot to show the distribution of the arrival times.

airline delay

0 A 20

1 B 63

2 B 28

3 B 25

4 A 20

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.displot(arrivals['delay'])**

**sns.kdeplot(arrivals['delay'])**

plt.show()

You have conducted an A/B test to see whether more users will buy more items from your online shop. Create a plot to show the overall number of users who bought/didn't buy items. A sample of the experiment data is shown below.

user group buy items

0 830 Control yes 10

1 252 Control no 0

2 218 Control yes 7

3 313 Treatment no 0

4 804 Treatment yes 4

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.barplot(x='buy', y='count', data= experiment)**

**sns.countplot(x = "buy", data = experiment)**

plt.show()

Plot a horizontal bar chart of the data contained in the df Pandas DataFrame.

lab val

0 A 10

1 B 30

2 C 20

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**ax = sns.barplot(x="lab", y="var", data=df)**

**sns.barplot(x="lab", y="val", data=df)**

plt.show()

Customize the x tick labels using the provided Python list, labels.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.boxplot(x="Type", y="Si", data=glass)

labels = ["bw\_f", "bw\_nf", "vw\_f", "vw\_nf", "c", "t"]

**plt.xticks**

**ax.set\_xticklabels(labels)**

plt.show()

You have created a plot of car value against age, but by default it does not show the whole range that you are interested in from 0 to 20. Update the x axis to these minimum and maximum values.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

p = sns.scatterplot(x = 'age', y = 'value', data = valuation)

**x=0**

**p.set(xlim = (0, 20))**

plt.show()

You plot of city temperatures includes some longer city names that are overlapping. Update the plot so that the city names are rotated by 90 degrees.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

sns.pointplot(x = 'city', y = 'temp', data = temperature, join = False)

**plt.xticks(rotation = 90)**

plt.show()

Create a scatterplot of Score as a function of GDP per capita and include a smoothing line. The data is contained in the happiness DataFrame.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**ax = sns.scatterplot(data=happiness,**

**ax = sns.regplot(data=happiness,**

x="GDP per capita",

y="Score",

lowess=True)

plt.show()

Add a rectangular shaded region between 25 and 55 on the x axis of the plot.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

sns.scatterplot(x="Liveness", y="Popularity", data=top50, color="g")

**g.set(25, 55, alpha=0.5)**

**plt.axvspan(25, 55, alpha=0.5)**

plt.show()

Plot a line plot of Score as a function of Overall rank. The variables are contained in the happiness DataFrame.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.lineplot(x="Overall rank", y="Score")**

**ax = sns.lineplot(x="Overall rank", y="Score", data=happiness)**

plt.show()

Use a logarithmic scale for both the x and y axes.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

fig, ax = plt.subplots()

**ax.set(xscale="log", yscale="log")**

sns.regplot("x", "y", data, ax=ax, scatter\_kws={"s": 100})

plt.show()

Create a grid of scatter plots using the heart DataFrame.

--heart

age sex chol fbs

63 1 233 1

37 1 250 0

41 0 204 0

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**g = sns.FacetGrid(heart, , )**

**g.(sns.regplot, , , fit\_reg=False)**

**g = sns.FacetGrid(heart, row="fbs", col="sex")**

**g.map(sns.regplot, "age", "chol", fit\_reg=False)**

plt.show()

Move the legend to the 'upper center' of the scatter plot.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

ax = sns.scatterplot(x="weight", y="mpg", size="horsepower", data=mpg)

**ax.legend()**

**ax.legend(loc='upper center')**

plt.show()

Plot the monthly dam level height contained in the dam\_level DataFrame.

--dam\_level

date level

2019-01-01 48.6

2019-02-01 46.7

2019-03-01 44.8

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

**sns.lineplot(x="date", y="level", hue="dam", data=dam\_level)**

**sns.lineplot(x='date',y='level', data=dam\_level)**

plt.xticks(rotation=45)

plt.show()

You have created a line plot showing the change in the mean patient response to a treatment. You are now preparing this to be presented. Your company guidelines say that plots should only have spines on the left axis and the bottom axis, but the default has all four spines. Remove spines so that your plot will meet these guidelines.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

sns.lineplot(x = 'week', y = 'mean', data= patient)

**plt.remove**

**sns.despine(top=True, right=True)**

plt.show()

Remove all the spines from the plot.

**Complete the code to return the output**

import matplotlib.pyplot as plt

import seaborn as sns

sns.violinplot(x="body\_style", y="price", data=auto)

**sns.despine(offset=10, trim=True)**

**sns.despine(left=True, bottom=True)**

plt.show()