

# Visualization quiz

6 out of 8 correct

1. What is Matplotlib in Python?

- ☐ Scientific computing
- ☒ Data analysis and visualization
- ☐ Machine learning
- ☐ All of the above

**Explanation:** Matplotlib is a plotting library in Python used for data analysis and visualization. It provides functions for creating a wide range of static, animated, and interactive visualizations, including line plots, scatter plots, bar charts, histograms, pie charts, and many more. Matplotlib is widely used for data exploration and presentation in fields such as statistics, finance, and scientific computing.

2. What is the most commonly used sub-library of Matplotlib for creating figures and plots?

- ☐ matplotlib.figure
- ☒ matplotlib.plot
- ☐ matplotlib.pyplot
- ☐ matplotlib.axes

**Explanation:** The most commonly used sublibrary of Matplotlib for creating figures and plots is matplotlib.pyplot. This sublibrary provides functions for creating a variety of plots and figures, including line plots, scatter plots, bar charts, histograms, pie charts, and many more. matplotlib.pyplot is designed to be a convenient and high-level interface to Matplotlib, and it is widely used for data visualization and exploration in Python.

3. What is the function in matplotlib.pyplot to create a line plot?

- ☐ plt.line()
- ☒ plt.plot()
- ☐ plt.lines()
- ☐ plt.lineplot()

**Explanation:** The function plt.plot() in the matplotlib.pyplot library is used to create a line plot. It takes in arrays of x and y values and plots a line connecting the points. plt.plot() is a versatile function that can be used to create a variety of line plots, including simple line plots, multi-line plots, and scatter plots. The plt.plot() function is one of the most commonly used functions in matplotlib.pyplot for data visualization and exploration in Python.



4. what is the output of the following code?

```
import matplotlib.pyplot as plt  
  
x = [1, 2, 3, 4, 5]  
  
y = [5, 4, 3, 2, 1]  
  
  
plt.bar(x, y)  
  
plt.show()
```

- ☒ The code creates a simple bar chart with x values on the x-axis and y values on the y-axis.
- ☐ The code creates a simple histogram with x values on the x-axis and y values on the y-axis
- ☐ All the above
- ☐ None

**Explanation:** The above code creates a Bar Graph in the matplotlib library and this chart represents the categorical data in rectangular bars. By seeing those bars, it helps to understand which product performs good or bad.

5. How do you add labels to the x and y axis of a plot in matplotlib.pyplot?

- ☐ plt.labels("X Axis Label", "Y Axis Label")
- ☐ plt.axes("X Axis Label", "Y Axis Label")
- ☒ plt.xlabel("X Axis Label"); plt.ylabel("Y Axis Label")
- ☐ plt.title("X Axis Label", "Y Axis Label")

**Explanation:** The function plt.xlabel is used to add a label to the x axis of a plot in matplotlib.pyplot, while plt.ylabel is used to add a label to the y axis. The labels are added as strings in quotes, and they can be changed to any desired text. To add labels to both axes, the code would be plt.xlabel("X Axis Label"); plt.ylabel("Y Axis Label"). This is the most commonly used method for adding labels to the axes in Matplotlib.

6. How would you change the title of a plot in matplotlib.pyplot?

- ☒ plt.title("Plot Title")
- ☐ plt.label("Plot Title")
- ☐ plt.axis("Plot Title")
- ☐ plt.header("Plot Title")

**Explanation:** The function plt.title is used to add a title to a plot in matplotlib.pyplot. The title is added as a string in quotes, and it can be changed to any desired text. The code plt.title("Plot Title") would add the string "Plot Title" as the title of the plot. This is the most commonly used method for adding a title to a plot in Matplotlib.

7. How do you change the color of a line plot in matplotlib.pyplot?

- ☐ `plt.color('red')`
- ☐ `plt.linecolor('red')`
- ☐ `plt.plot(x, y, color='red')`
- ☒ `plt.line(x, y, color='red')`

**Explanation:** The `plt.plot` function in `matplotlib.pyplot` is used to create a line plot. The color of the line can be changed using the `color` parameter. The code `plt.plot(x, y, color='red')` would create a line plot with `x` values on the x-axis and `y` values on the y-axis, and the line would be red. This is the most commonly used method for changing the color of a line plot in Matplotlib.

8. How do you add a grid to a plot in matplotlib.pyplot?

- ☒ `plt.grid(True)`
- ☐ `plt.addgrid(True)`
- ☐ `plt.plotgrid(True)`
- ☐ `plt.showgrid(True)`

**Explanation:** The function `plt.grid` is used to add a grid to a plot in `matplotlib.pyplot`. The grid is added by passing `True` to the `grid` parameter, as in `plt.grid(True)`. This code will add a grid to the current plot. This is the most commonly used method for adding a grid to a plot in Matplotlib.

Submit