DSV Module5_MCQ with Answers

1. **Who developed Matplotlib?**
   A) Guido van Rossum
   B) John Hunter
   C) Bjarne Stroustrup
   D) James Gosling

   Answer: B) John Hunter

2. **What year did the development of Matplotlib begin?**
   A) 1999
   B) 2001
   C) 2003
   D) 2005
   Answer: C) 2003

3. **Matplotlib was initially created to emulate which software?**
   A) Excel
   B) R
   C) SPSS
   D) MATLAB
   Answer: D) MATLAB

4. **What is the top-level container for all plot elements in Matplotlib?**
   A) Axes
   B) Figure
   C) Grid
   D) Legend
   Answer: B) Figure

5. **What Python object contains multiple plots within a single visualization?**
   A) Axes
   B) Figure
   C) Subplot
   D) Canvas
   Answer: B) Figure

6. **Which component of a Matplotlib plot contains the actual plot and its elements?**
   A) Figure
   B) Axes
   C) Spine
   D) Grid
   Answer: B) Axes

7. **What is used to describe the content of the plot in Matplotlib?**
   A) Spine
   B) Title
   C) Legend
   D) Grid
   Answer: C) Legend

8. **What function is used to create a new Figure in Matplotlib?**

A) plt.show()
B) plt.plot()
C) plt.figure()
D) plt.new_figure()
Answer: C) plt.figure()

9. **What is the default width of a Figure created by plt.figure() in inches?**
A) 4.8
B) 6.4
C) 8.0
D) 10.0
Answer: B) 6.4

10. **Which command closes the current Figure in Matplotlib?**
A) plt.close_current()
B) plt.figure.close()
C) plt.close()
D) plt.end()
Answer: C) plt.close()

11. **What format string is used to plot data points as circles?**
A) '-'
B) 'o'
C) '--'
D) 's'
Answer: B) 'o'

12. **Which command would you use to save the current Figure as a PNG file?**
A) plt.save()
B) plt.save_figure()
C) plt.savefig()
D) plt.export()
Answer: C) plt.savefig()

13. **What does the bbox_inches='tight' parameter do in plt.savefig()?**
A) Adjusts the plot to fit the entire Figure
B) Removes the outer white margins
C) Increases the resolution of the plot
D) Changes the background color
Answer: B) Removes the outer white margins

14. **What is the command to display a Figure in a Jupyter Notebook?**
A) plt.show()
B) %matplotlib inline
C) plt.display()
D) plt.figure()
Answer: B) %matplotlib inline

15. **Which parameter of plt.plot() is used to specify line style and markers?**
A) fmt
B) linestyle
C) marker
D) format
Answer: A) fmt

16. **How do you create a plot using data from a pandas DataFrame?**
A) plt.plot('x', 'y', data=df)
B) plt.plot(data=df)

C) plt.plot(df['x'], df['y'])
D) plt.plot(df)

Answer: A) plt.plot('x', 'y', data=df)

17. **Which function sets the current tick locations and labels of the x-axis?**
    A) plt.xticks()
    B) plt.set_xticks()
    C) plt.xlabel()
    D) plt.ticks()
    Answer: A) plt.xticks()
18. **Which function is used to set the label for the x-axis?**
    A) plt.xlabel()
    B) plt.set_xlabel()
    C) plt.xaxis_label()
    D) plt.x_label()
    Answer: A) plt.xlabel()
19. **What does plt.gcf() return?**
    A) The current axes
    B) The current figure
    C) The current subplot
    D) The current plot title

    Answer: B) The current figure

20. **How can you plot a dashed line with blue circles at data points?**
    A) plt.plot([x], y, 'bo--')
    B) plt.plot([x], y, 'b--o')
    C) plt.plot([x], y, '--bo')
    D) plt.plot([x], y, '-o', color='blue')
    Answer: A) plt.plot([x], y, 'bo--')
21. **What function would you use to add a title to a plot?**
    A) plt.title()
    B) plt.add_title()
    C) plt.plot_title()
    D) plt.figure_title()
    Answer: A) plt.title()
22. **What function is used to add text to a specific location on a plot?**
    A) plt.add_text()
    B) plt.text()
    C) plt.annotate()
    D) plt.insert_text()
    Answer: B) plt.text()
23. **What is the format for specifying colors in Matplotlib using RGB tuples?**
    A) (R, G, B)
    B) (R, G, B, A)
    C) #RRGGBB
    D) #RRGGBBAA
    Answer: A) (R, G, B)
24. **Which command would you use to set the rotation of tick labels?**

A) plt.tick_rotation()
B) plt.set_rotation()
C) rotation=angle
D) plt.xticks(rotation=angle)

Answer: D) plt.xticks(rotation=angle)

25. **How do you explicitly create a Figure with a specific dpi?**
    A) plt.figure(dpi=200)
    B) plt.figure(set_dpi=200)
    C) plt.figure(dpi=100)
    D) plt.figure(set_dpi=100)

Answer: A) plt.figure(dpi=200)

26. **What function closes all active Figures?**
    A) plt.close()
    B) plt.close_all()
    C) plt.close('all')
    D) plt.end_all()

Answer: C) plt.close('all')

27. **How can you create a subplot in Matplotlib?**
    A) plt.subplot()
    B) plt.subplots()
    C) plt.new_subplot()
    D) plt.figure_subplot()

Answer: A) plt.subplot()

28. **Which function is used to set the label for the y-axis?**
    A) plt.ylabel()
    B) plt.set_ylabel()
    C) plt.yaxis_label()
    D) plt.y_label()

Answer: A) plt.ylabel()

29. **What does the command plt.plot([0, 1, 2, 3], [2, 4, 6, 8], 'o') do?**
    A) Plots data points connected by a solid line
    B) Plots data points as circles without connecting them
    C) Plots data points connected by a dashed line
    D) Plots data points as stars without connecting them
    Answer: B) Plots data points as circles without connecting them
30. **Which format string represents a red dashed line?**
    A) 'r-'
    B) 'r--'
    C) 'r-.'
    D) 'r:'

31. **What does plt.legend() do?**
    A) Adds a legend to the plot
    B) Sets the label for the x-axis
    C) Sets the label for the y-axis
    D) Adds a title to the plot
    Answer: A) Adds a legend to the plot

32. **How do you remove major ticks from the x-axis?**
    A) ax.xaxis.set_major_locator(plt.NullLocator())
    B) ax.xaxis.set_major_formatter(plt.NullFormatter())
    C) plt.xticks(major=False)
    D) plt.xticks(minor=True)

    Answer: A) ax.xaxis.set_major_locator(plt.NullLocator())

33. **What command would you use to set the limits of the x-axis?**
    A) plt.xaxis_limit()
    B) plt.set_xlim()
    C) plt.xlim()
    D) plt.set_xaxis_limit()
    Answer: C) plt.xlim()

34. **What command would you use to set the scale of the y-axis to logarithmic?**
    A) plt.set_yscale('log')
    B) plt.yscale('log')
    C) plt.set_logscale_y()
    D) plt.yaxis_logscale()
    Answer: B) plt.yscale('log')

35. **Which method would you use to add a grid to the plot?**
    A) plt.add_grid()
    B) plt.grid()
    C) plt.plot_grid()
    D) plt.set_grid()
    Answer: B) plt.grid()

36. **Which method would you use to create an annotation with an arrow?**
    A) plt.arrow()
    B) plt.add_arrow()
    C) plt.annotate()
    D) plt.text_arrow()
    Answer: C) plt.annotate()

37. **What does the command plt.subplot(2, 2, 1) do?**
    A) Creates a 2x2 grid of subplots and activates the first subplot
    B) Creates a 2x2 grid of subplots and activates the second subplot

C) Creates a subplot at the first position
D) Creates two subplots in a row

Answer: A) Creates a 2x2 grid of subplots and activates the first subplot

38. **How do you adjust the spacing between subplots?**
    A) plt.subplot_adjust()
    B) plt.subplots_adjust()
    C) plt.adjust_subplot()
    D) plt.spacing_subplots()

   Answer: B) plt.subplots_adjust()

39. **Which function sets the title for an Axes object?**
    A) ax.set_title()
    B) ax.title()
    C) ax.add_title()
    D) ax.plot_title()

   Answer: A) ax.set_title()

40. **How do you add a subplot to an existing Figure?**
    A) fig.add_subplot()
    B) fig.subplot()
    C) fig.new_subplot()
    D) fig.plot_subplot()

   Answer: A) fig.add_subplot()

41. **Which parameter is used in plt.plot() to specify the data format?**
    A) fmt
    B) format
    C) linestyle
    D) marker

   Answer: A) fmt

42. **How can you plot a histogram in Matplotlib?**
    A) plt.hist()
    B) plt.plot_hist()
    C) plt.histogram()
    D) plt.plot_histogram()
   Answer: A) plt.hist()

43. **What does the 'bins' parameter do in plt.hist()?**
    A) Sets the number of data points
    B) Sets the number of intervals in the histogram
    C) Sets the color of the bars
    D) Sets the width of the bars
   Answer: B) Sets the number of intervals in the histogram

44. **Which function would you use to create a scatter plot?**
    A) plt.scatter()
    B) plt.plot_scatter()
    C) plt.scatter_plot()
    D) plt.plot()
    Answer: A) plt.scatter()
45. **What does the 's' parameter represent in plt.scatter()?**
    A) Shape of the markers
    B) Size of the markers
    C) Color of the markers
    D) Style of the markers
    Answer: B) Size of the markers
46. **How do you create a bar plot in Matplotlib?**
    A) plt.bar()
    B) plt.plot_bar()
    C) plt.bar_plot()
    D) plt.plot()
    Answer: A) plt.bar()
47. **What parameter do you use to set the width of the bars in plt.bar()?**
    A) width
    B) bar_width
    C) bar_size
    D) bar_length
    Answer: A) width
48. **Which function is used to create a pie chart in Matplotlib?**
    A) plt.pie()
    B) plt.plot_pie()
    C) plt.pie_chart()
    D) plt.plot()

    Answer: A) plt.pie()

49. **What parameter sets the colors of the wedges in plt.pie()?**
    A) colors
    B) color
    C) wedges_color
    D) pie_colors
    Answer: A) colors
50. **What does the 'explode' parameter do in plt.pie()?**
    A) Sets the color of the wedges
    B) Sets the spacing between the wedges
    C) Sets the size of the chart
    D) Sets the distance of the wedges from the center
    Answer: D) Sets the distance of the wedges from the center