Pandas Plotting Functions Guide

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1 Introduction

Pandas provides several built-in plotting functions that allow you to visualize data stored in a Pandas Series. This guide presents a comprehensive list of some of the most commonly used plotting methods along with their parameters and descriptions.

2 plot()

Parameters:

`kind`: *str*, optional (default='line')
The type of plot to create. Possible values: 'line', 'bar', 'barh', 'hist', 'box', 'kde', 'density', 'area', 'pie', 'scatter', etc.

`ax`: *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize`: *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title`: *str or None*, optional (default=None)
The title for the plot.

`legend`: *bool or 'reverse'*, optional (default=True)
Determines if a legend is shown for the plot.

Description: The `plot()` method is a versatile method that can create various types of plots based on the `kind` parameter. It provides a quick and easy way to visualize data stored in a Pandas Series.

3 line()

Parameters:

`x:` *str*, optional
The column name to use for the x-axis data. If not specified, the index of the Series will be used.

`y:` *str*, optional
The column name to use for the y-axis data. If not specified, the values of the Series will be used.

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `line()` method is used to create a line plot, which is suitable for visualizing data trends over a continuous variable, typically time or numerical values.

4 bar()

Parameters:

`x:` *str or list-like*, optional
The data to use for the x-axis categories. If not specified, the index of the Series will be used.

`y:` *str or list-like*, optional
The data to use for the bar heights. If not specified, the values of the Series will be used.

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `bar()` method creates vertical bar plots, which are useful for comparing discrete data, such as categorical variables.

5 barh()

Parameters:

`x:` *str or list-like*, optional
The data to use for the y-axis categories. If not specified, the index of the Series will be used.

`y:` *str or list-like*, optional
The data to use for the bar lengths. If not specified, the values of the Series will be used.

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `barh()` method creates horizontal bar plots, which are useful for comparing discrete data, such as categorical variables.

6 hist()

Parameters:

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`bins:` *int or sequence*, optional (default=10)
Determines the number of bins or the bin edges used in the histogram.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `hist()` method creates a histogram, which is used to visualize the distribution of numeric data.

7 box()

Parameters:

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`by:` *str or ndarray*, optional
If specified, creates a box plot for each unique value in the specified column.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `box()` method creates box plots, which show the distribution of data across different categories or the overall distribution of a numerical variable.

8 kde()

Parameters:

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `kde()` method creates a Kernel Density Estimation (KDE) plot, which is used to visualize the underlying probability density function of continuous data.

9 density()

Parameters:

`ax:` *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize:` *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title:` *str or None*, optional (default=None)
The title for the plot.

Description: The `density()` method is an alias for `kde()` and creates a KDE plot.

10 area()

Parameters:

`ax`: *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize`: *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title`: *str or None*, optional (default=None)
The title for the plot.

Description: The `area()` method creates an area plot, which is similar to a line plot but with the area under the curve filled.

11 pie()

Parameters:

`ax`: *Matplotlib Axes object*, optional
Allows plotting on a specific Axes object if provided.

`figsize`: *tuple*, optional (default=None)
Tuple specifying the width and height of the figure in inches.

`title`: *str or None*, optional (default=None)
The title for the plot.

Description: The `pie()` method creates a pie chart, which is used to represent the proportion of each category in a dataset.