

1. **What is the purpose of the pandas library in Python?**
 - To provide data structures and analysis tools for working with tabular data.
2. **How is the Iris dataset loaded into a DataFrame?**
 - Using the `pd.read_csv()` function.
3. **What is the significance of the `value_counts()` method?**
 - To count the occurrences of unique values in a Series.
4. **Explain the parameters used in the `plt.pie()` function.**
 - `x`: Data to be plotted.
 - `labels`: Labels for each pie slice.
 - `autopct`: Format string for percentage labels.
 - `startangle`: Starting angle for the first slice.
5. **How can you customize the colors of the pie chart slices?**
 - By using the `colors` parameter in the `plt.pie()` function.
6. **What are some common statistical measures provided by the `describe()` method?**
 - Count, mean, standard deviation, minimum, 25th percentile, 50th percentile, 75th percentile, and maximum.
7. **How can you obtain specific statistical measures, such as the median or mode, for a particular column?**
 - Use appropriate methods like `median()` or `mode()`.
8. **What is the difference between the mean and the median?**
 - The mean is the average value, while the median is the middle value when the data is sorted.
9. **How can you identify outliers in the data using statistical measures?**
 - By analyzing the distribution of values and looking for extreme values that deviate significantly from the mean or median.

10. What are some other visualization techniques that can be used to explore the wine quality data?

- Histograms, box plots, scatter plots, and correlation matrices.

11. What is the purpose of the fillna() method in Pandas?

- To replace missing values in a DataFrame or Series.

12. How does the mean() method calculate the mean of a column?

- By summing the non-null values and dividing by the count of non-null values.

13. What are some other methods for handling missing values in Pandas?

- dropna(), interpolate(), ffill(), bfill().