Python Practice Questions

Pandas (10 Questions)

1. Load a CSV file and display the first 5 rows.

2. Check for null values in a DataFrame.

3. Replace all null values with the mean of the column.

4. Group data by a column and calculate the average.

5. Filter rows where column 'age' > 25.

6. Sort the DataFrame based on column 'salary'.

7. Rename columns in a DataFrame.

8. Drop duplicate rows from a DataFrame.

9. Merge two DataFrames on a common column.

10. Create a pivot table showing mean sales by region.

NumPy (10 Questions)

1. Create a NumPy array of numbers from 1 to 10.

2. Reshape a 1D array into 2D (3x3).

3. Create an identity matrix of size 4.

4. Perform element-wise addition of two arrays.

5. Find the mean and standard deviation of an array.

6. Replace all negative values in an array with 0.

7. Create an array of 10 random numbers between 0 and 1.

8. Extract elements greater than 5 from an array.

9. Stack two arrays vertically and horizontally.

10. Flatten a multi-dimensional array.

Matplotlib (10 Questions)

1. Plot a line graph of x vs y.

2. Create a bar chart showing sales by product.

3. Plot a histogram of a given data array.

4. Display a scatter plot with labels and title.

5. Plot multiple lines on the same chart.

6. Show a pie chart with percentages and labels.

7. Create a boxplot for a dataset.

8. Customize plot with grid, labels, and legend.

9. Save a plot as an image file.

10. Plot a heatmap using imshow().

Functions (5 Questions)

1. Write a function to return the square of a number.

2. Create a function that checks if a string is a palindrome.

3. Write a function to count vowels in a string.

4. Define a function that returns the factorial of a number.

5. Write a function that takes variable number of arguments and returns their sum.

OOPs (5 Questions)

1. Create a class with a constructor and a method.

2. Demonstrate single inheritance using classes.

3. Create a class with a classmethod and staticmethod.

4. Overload the + operator in a class using __add__.

5. Use super() to call a method from the parent class.

Python Basics (10 Questions)

1. Write a loop to print even numbers from 1 to 20.

2. Reverse a string without using slicing.

3. Count the frequency of each word in a string using a dictionary.

4. Add an element to a set and check membership.

5. Convert a list into a tuple and vice versa.

6. Create a dictionary with student names and their marks.

7. Find the max, min, and sum of a list of numbers.

8. Use a for loop to print each key-value pair from a dictionary.

9. Merge two lists into a dictionary using zip().

10. Demonstrate the use of break and continue in a loop.