FUNCTIONS & ATTRIBUTES USED IN PYTHON & PANDAS

Python Functions:

1. **print()**: Outputs messages or objects to the console.
2. **len()**: Returns the length of an object (number of items).
3. **type()**: Returns the type of an object (e.g., int, str).
4. **range()**: Generates a sequence of numbers.
5. **input()**: Accepts user input from the console.
6. **open()**: Opens files and returns a file object.
7. **sum()**: Calculates the sum of elements in an iterable.
8. **sorted()**: Returns a sorted list of elements.
9. **min()**: Returns the smallest element in an iterable.
10. **max()**: Returns the largest element in an iterable.
11. **zip()**: Combines multiple iterables into tuples.
12. **enumerate()**: Returns index-value pairs from an iterable.
13. **map()**: Applies a function to all elements of an iterable.
14. **filter()**: Filters elements from an iterable based on a function.
15. **all()**: Returns True if all elements are true.
16. **any()**: Returns True if any element is true.
17. **getattr()**: Gets the value of an attribute of an object.
18. **setattr()**: Sets the value of an attribute of an object.
19. **delattr()**: Deletes an attribute of an object.
20. **sum()**: Calculates the sum of elements in an iterable.

Python Attributes:

1. **name**: Name of the current module.
2. **file**: File name of the current module.
3. **doc**: Documentation string of an object.
4. **dict**: Dictionary containing the module's namespace.
5. **class**: Class to which an instance belongs.
6. **module**: Module to which a class or function belongs.
7. **bases**: Tuple containing base classes of a class.
8. **code**: Code object representing compiled Python code.
9. **dir**: List of attributes of an object.
10. **len**: Method to return the length of an object.

Pandas Functions:

1. **DataFrame()**: Creates a new DataFrame.
2. **read_csv()**: Reads a CSV file into a DataFrame.
3. **head()**: Returns the first n rows of a DataFrame.
4. **tail()**: Returns the last n rows of a DataFrame.
5. **info()**: Provides summary information about a DataFrame.
6. **describe()**: Generates descriptive statistics of a DataFrame.
7. **shape**: Returns the dimensions of a DataFrame.
8. **groupby()**: Groups the DataFrame using a mapper or by a Series of columns.
9. **merge()**: Merges DataFrame objects with a database-style join.
10. **concat()**: Concatenates pandas objects along a specified axis.
11. **to_csv()**: Writes DataFrame to a CSV file.

12. **to_excel()**: Writes DataFrame to an Excel file.
13. **to_sql()**: Writes DataFrame to a SQL database.
14. **astype()**: Converts the data type of the DataFrame or Series.
15. **apply()**: Applies a function along an axis of the DataFrame.
16. **pivot_table()**: Creates a pivot table from a DataFrame.
17. **fillna()**: Fills missing values in a DataFrame or Series.
18. **drop_duplicates()**: Drops duplicate rows from a DataFrame.
19. **sample()**: Returns a random sample of items from an axis of the DataFrame.
20. **corr()**: Computes pairwise correlation of columns, excluding NA/null values.

Pandas Attributes:

1. **index**: Returns the index (row labels) of the DataFrame.
2. **columns**: Returns the column labels of the DataFrame.
3. **dtypes**: Returns the data types of each column in the DataFrame.
4. **values**: Returns the data as a NumPy array.
5. **shape**: Returns a tuple representing the dimensions of the DataFrame.
6. **size**: Returns the number of elements in the DataFrame.
7. **empty**: Returns True if the DataFrame is empty.
8. **T**: Transposes the DataFrame.
9. **iloc**: Integer-location based indexing for selection by position.
10. **loc**: Label-based indexing for selection by label.
11. **ndim**: Returns the number of dimensions of the DataFrame.
12. **style**: Provides access to the Styler object for DataFrame rendering.
13. **agg()**: Returns the result of applying multiple aggregation operations to the DataFrame.

14. **nunique()**: Returns the number of unique elements in each column.
15. **sort_index()**: Sorts the DataFrame by index labels.
16. **sort_values()**: Sorts the DataFrame by the values along either axis.
17. **index.names**: Names of the index levels.
18. **columns.names**: Names of the column levels.
19. **isna()**: Detects missing values in the DataFrame.
20. **plot()**: Plots data from the DataFrame using matplotlib.