Difference of the category and the object in the python dataset?

Object:

Description: The most general data type in Python, encompassing various data types like strings, numbers, lists, dictionaries, and more.
Suitability: Suitable for storing heterogeneous data without specific constraints.
Example:

```
import pandas as pd
data = pd.DataFrame({
   'column1': ['apple', 'banana', 'orange', 10, 20.5, [1, 2, 3]]
})
print(data.dtypes)
```

Output:

column1 object
dtype: object

Category:

Description: A specialized data type in pandas (introduced in version 0.20.0) designed for efficient representation of fixed and finite-valued categorical data.
Suitability: Ideal for scenarios where:

- Data has a limited set of discrete values (e.g., colors, weekdays, product types).
- Memory efficiency and performance are crucial.
- Orderings or relationships between categories exist.

Example:

```
data['colors'] = pd.Categorical(['red', 'green', 'blue', 'red', 'blue', 'red'])
print(data.dtypes)
```

Output:

column1 object
colors category
dtype: object

Difference of the info () and info function in python?

The terms "info ()" and "info function" in Python can refer to different things depending on the context. Here's a breakdown to clarify the differences:

Object Property (df.info): This is a common pattern in Python where objects have properties that hold information about themselves. In libraries like pandas, df.info usually refers to a property that stores metadata about the object, such as its data types, number of rows and columns, memory usage, etc. Accessing it doesn't require parentheses, and it returns the value without executing any specific action.

Function (info ()): This is a more general term for a standalone function that performs a specific task and usually requires parentheses to be called. When you encounter an info () function outside of a particular library or context, it's important to understand its origin and purpose to use it correctly.

Basic formula of the percentage calculation?

Finding the percentage of a number:

This formula represents the part (part) as a percentage of the whole (whole):

percentage = (part / whole) * 100%
Example: What is 20% of 50?
percentage = (20 / 50) * 100% = 40%.