How can a Pandas DataFrame be split into multiple DataFrames?

Authored by

stats writer

May 4, 2024

A Pandas DataFrame can be split into multiple DataFrames by using the "groupby" function, which allows for splitting the data based on a specific column or set of columns. This function creates a "groupby" object, which can then be iterated over to access each individual group and convert it into a separate DataFrame. Additionally, the "split" function can also be used to divide a DataFrame into multiple smaller DataFrames based on a chosen condition. These methods allow for efficient and organized splitting of data within a Pandas DataFrame.

Split a Pandas DataFrame into Multiple DataFrames

You can use the following basic syntax to split a pandas DataFrame into multiple DataFrames based on row number:

#split DataFrame into two DataFrames at row 6
df1 = df.iloc
df2 = df.iloc

The following examples show how to use this syntax in practice.

Example 1: Split Pandas DataFrame into Two DataFrames

The following code shows how to split one pandas DataFrame into two DataFrames:

import pandas as pd

#create DataFrame

```
df = pd.DataFrame({'x': ,
'y': })

#view DataFrame
df

x y
0 1 5
1 1 7
2 1 7
3 3 9
4 3 12
5 4 9
6 5 9
7 5 4
8 5 3
9 6 3
10 7 1
11 9 10

#split original DataFrame into two DataFrames
df1 = df.iloc
df2 = df.iloc

#view resulting DataFrames
```

print(df1)

x y
0 1 5
1 1 7
2 1 7
3 3 9
4 3 12
5 4 9

print(df2)
x y
6 5 9
7 5 4
8 5 3
9 6 3
10 7 1
11 9 10

Notice that df1 contains the first six rows of the original DataFrame and df2 contains the last six rows of the original DataFrame.

Example 2: Split Pandas DataFrame into Multiple DataFrames

The following code shows how to split a pandas

import pandas as pd

#create DataFramedf = pd.DataFrame({'x': ,
'y': })

#split into three DataFrames
df1 = df.iloc
df2 = df.iloc
df3 = df.iloc

#view resulting DataFrames
print(df1)

x y
0 1 5
1 1 7
2 1 7

print(df2)

x y
3 3 9
4 3 12
5 4 9

```
print(df3)

x y
6 5 9
7 5 4
8 5 3
9 6 3
10 7 1
11 9 10
```

In this example we chose to split one DataFrame into three DataFrames, but using this syntax we can split a pandas DataFrame into any number of DataFrames that we'd like.

The following tutorials explain how to perform other common functions in pandas: