How can I check the dtype for all columns in a Pandas DataFrame?

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The process of determining the data type of each column in a Pandas DataFrame is known as checking the dtype. This can be done by using the .dtypes attribute which returns a series with the data type of each column. It is an efficient and straightforward way to quickly understand the type of data present in a DataFrame, allowing for easier data manipulation and analysis.

Pandas: Check dtype for All Columns in DataFrame

You can use the following methods to check the data type () for columns in a pandas DataFrame:

Method 1: Check dtype of One Column

df.column_name.dtype

Method 2: Check dtype of All Columns

df.dtypes

Method 3: Check which Columns have Specific dtype

df.dtypes

The following examples show how to use each method with the following pandas DataFrame:

import pandas as pd

```
#create DataFrame
df = pd.DataFrame({'team': ,
'points': ,
'assists': ,
'all_star': })

#view DataFrame
print(df)

team points assists all_star
0 A 18 5 True
1 B 22 7 False
2 C 19 7 False
3 D 14 9 True
4 E 14 12 True
5 F 11 9 True
```

Example 1: Check dtype of One Column

We can use the following syntax to check the data type of just the points column in the DataFrame:

```
#check dtype of points column
df.points.dtype

dtype('int64')
```

From the output we can see that the points column has a data type of integer.

Example 2: Check dtype of All Columns

We can use the following syntax to check the data type of all columns in the DataFrame:

```
#check dtype of all columns
df.dtypes

team object
points int64
assists int64
all_star bool
dtype: object
```

From the output we can see:

team column: object (this is the same as a string)points column: integerassists column: integerall_star column: boolean

By using this one line of code, we can see the data type of each column in the DataFrame.

Example 3: Check which Columns have Specific dtype

We can use the following syntax to check which columns in the DataFrame have a data type of int64:

```
#show all columns that have a class of int64
df.dtypes

points int64
assists int64
dtype: object
```

From the output we can see that the points and assists columns both have a data type of int64.

We can use similar syntax to check which columns have other data types.

For example, we can use the following syntax to check which columns in the DataFrame have a data type of object:

```
#show all columns that have a class of object (i.e. string)
df.dtypes
```

team object
dtype: object

We can see that only the team column has a data type of 'O', which stands for object.

Additional Resources

The following tutorials explain how to perform other common operations on pandas DataFrames: