How can I create a pivot table in Pandas that shows the count of values?

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A pivot table in Pandas is a powerful tool that allows users to summarize and analyze large datasets. It organizes data in a structured manner, making it easier to identify patterns and trends. To create a pivot table that shows the count of values, first, the data needs to be in a DataFrame format. Then, the user can use the "pivot_table" function, specifying the column(s) to be used as the index, the column(s) to be used as the columns, and the column(s) to be used for aggregation (in this case, the count function). This will result in a pivot table that displays the count of values for each combination of index and columns. This functionality is valuable for data analysis and can provide useful insights into the dataset.

Pandas: Create Pivot Table with Count of Values

You can use one of the following methods to create a pivot table in pandas that displays the counts of values in certain columns:

Method 1: Pivot Table With Counts

pd.pivot_table(df, values='col1', index='col2', columns='col3', aggfunc='count')

Method 2: Pivot Table With Unique Counts

pd.pivot_table(df, values='col1', index='col2', columns='col3', aggfunc=pd.Series.nunique)

The following examples show how to use each method

with the following pandas DataFrame:

```
import pandas as pd

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

#view DataFrame
df
```

team position points
0 A G 4
1 A G 4
2 A F 6
3 A C 8
4 B G 9
5 B F 5
6 B F 5
7 B F 12

Method 1: Create Pandas Pivot Table With Counts

The following code shows how to create a pivot table in pandas that shows the total count of 'points' values for

each 'team' and 'position' in the DataFrame:

```
#create pivot table
df_pivot = pd.pivot_table(df, values='points', index='team', columns='position', aggfunc='count')

#view pivot table
df_pivot
```

```
position C F G
team
A 1.0 1.0 2.0
B NaN 3.0 1.0
```

From the output we can see:

There is 1 value in the 'points' column for team A at position C.There is 1 value in the 'points' column for team A at position F.There are 2 values in the 'points' column for team A at position G.

And so on.

Method 2: Create Pandas Pivot Table With Unique Counts

The following code shows how to create a pivot table in pandas that shows the total unique number of 'points' values for each 'team' and 'position' in the DataFrame:

```
#create pivot table
df_pivot = pd.pivot_table(df, values='points', index='team', columns='position', aggfunc=pd.Series.nunique)

#view pivot table
df_pivot
```

```
position C F G
team
A 1.0 1.0 1.0
B NaN 2.0 1.0
```

From the output we can see:

There is 1 unique value in the 'points' column for team A at position C.There is 1 unique value in the 'points' column for team A at position F.There is 1 unique value in the 'points' column for team A at position G.

And so on.

Note: You can find the complete documentation for the pandas pivot_table() function .

Additional Resources

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