

How can I sort values in a crosstab using Pandas?

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Pandas is a powerful data analysis library in Python that offers various methods for manipulating and organizing data. One of the common tasks in data analysis is sorting values in a crosstab. A crosstab is a table that summarizes data by grouping variables in rows and columns. Pandas allows users to easily sort the values in a crosstab by one or more variables using the 'sort_values' function. This function can be customized to sort in ascending or descending order and can also handle missing values. By utilizing this function, users can efficiently sort and rearrange their data for further analysis and visualization.

Pandas: Sort Values in Crosstab

You can use the following methods to sort the rows or columns in a pandas crosstab:

Method 1: Sort Crosstab by Row Values

```
pd.crosstab(df.col1, df.col2).sort_index(axis=0, ascending=False)
```

Method 2: Sort Crosstab by Column Values

```
pd.crosstab(df.col1, df.col2).sort_index(axis=1, ascending=False)
```

The following examples show how to use each of these methods in practice with the following pandas crosstab:

```
import pandas as pd
```

```
#create DataFrame
```

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

```
#create crosstab to display count of players by team  
and position
```

```
my_crosstab = pd.crosstab(df.team, df.position)
```

```
#view crosstab
```

```
print(my_crosstab)
```

```
position F G
```

```
team
```

```
A 1 2
```

```
B 3 1
```

```
C 2 2
```

Example 1: Sort Crosstab by Row Values

We can use the following syntax to sort the rows of the crosstab based on the values in the team column in descending order (from Z to A):

```
#create crosstab with rows sorted from Z to A
```

```
pd.crosstab(df.team, df.position).sort_index(axis=0,
```

```
ascending=False)
```

```
position F G
```

```
team
```

```
C 2 2
```

```
B 3 1
```

```
A 1 2
```

Notice that the rows of the crosstab are now sorted based on the team values in reverse alphabetical order.

Note: The `crosstab()` function displays the row values of the crosstab in alphabetical order (from A to Z) by default.

Example 2: Sort Crosstab by Column Values

We can use the following syntax to sort the columns of the crosstab based on the values in the team column in descending order (from Z to A):

```
#create crosstab with columns sorted from Z to A
```

```
pd.crosstab(df.team, df.position).sort_index(axis=1,  
ascending=False)
```

```
position G F
```

team

A 2 1

B 1 3

C 2 2

Notice that the columns of the crosstab are now sorted based on the position values in reverse alphabetical order.

Note: The `crosstab()` function displays the column values of the crosstab in alphabetical order (from A to Z) by default.

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