

How do I add a new column to a Pandas DataFrame?

Authored by
stats writer

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Adding a new column to a Pandas DataFrame involves using the "df = new_column_values" syntax. This will create a new column in the DataFrame with the specified name and assign the given values to each row. Additionally, columns can also be added by using the "df.insert()" function. This function allows for specifying the position of the new column as well as providing the values to be inserted. Both methods are efficient ways to add new columns to a Pandas DataFrame.

Insert a Column Into a Pandas DataFrame

Often you may want to insert a new column into a pandas DataFrame. Fortunately this is easy to do using the pandas function, which uses the following syntax:

```
insert(loc, column, value, allow_duplicates=False)
```

where:

loc: Index to insert column in. First column is 0.
column: Name to give to new column.
value: Array of values for the new column.
allow_duplicates: Whether or not to allow new column name to match existing column name. Default is False.

This tutorial shows several examples of how to use this function in practice.

Example 1: Insert New Column as First Column

The following code shows how to insert a new column

as the first column of an existing DataFrame:

```
import pandas as pd
```

```
#create DataFrame
```

```
df = pd.DataFrame({'points': ,  
'assists': ,  
'rebounds': })
```

```
#view DataFrame
```

```
df  
points assists rebounds  
0 25 5 11  
1 12 7 8  
2 15 7 10  
3 14 9 6  
4 19 12 6
```

```
#insert new column 'player' as first column
```

```
player_vals =  
df.insert(loc=0, column='player', value=player_vals)  
df
```

```
player points assists rebounds
```

```
0 A 25 5 11
```

```
1 B 12 7 8
2 C 15 7 10
3 D 14 9 6
4 E 19 12 6
```

Example 2: Insert New Column as a Middle Column

The following code shows how to insert a new column as the third column of an existing DataFrame:

```
import pandas as pd

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

#insert new column 'player' as third column
player_vals =
df.insert(loc=2, column='player', value=player_vals)
df

points assists player rebounds
0 25 5 A 11
1 12 7 B 8
2 15 7 C 10
```

3 14 9 D 6

4 19 12 E 6

Example 3: Insert New Column as Last Column

The following code shows how to insert a new column as the last column of an existing DataFrame:

```
import pandas as pd
```

```
#create DataFrame
```

```
df = pd.DataFrame({'points': ,  
'assists': ,  
'rebounds': })
```

```
#insert new column 'player' as last column
```

```
player_vals =  
df.insert(loc=len(df.columns), column='player',  
value=player_vals)  
df
```

```
points assists player rebounds
```

```
0 25 5 A 11
```

```
1 12 7 B 8
```

```
2 15 7 C 10
```

```
3 14 9 D 6
```

4 19 12 E 6

Note that using `len(df.columns)` allows you to insert a new column as the last column in any `dataFrame`, no matter how many columns it may have.

You can find the complete documentation for the `insert()` function .

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