# How can I add a numpy array to a pandas DataFrame?

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Adding a numpy array to a pandas DataFrame is a simple process that can be done using the "np.array" method from the NumPy library. First, import the NumPy library and create a numpy array with the desired data. Then, use the "pd.DataFrame" method from the pandas library to convert the numpy array into a DataFrame. Finally, use the "concat" method to add the new DataFrame to the existing one. This will result in a new column being added to the DataFrame containing the data from the numpy array. It is important to ensure that the length of the numpy array matches the number of rows in the DataFrame to avoid any errors.

## Add a Numpy Array to a Pandas DataFrame

## Occasionally you may want to add a NumPy array as a new column to a pandas DataFrame.

## Fortunately you can easily do this using the following syntax:

## df = array_name.tolist()

## This tutorial shows a couple examples of how to use this syntax in practice.

### Example 1: Add NumPy Array as New Column in DataFrame

## The following code shows how to create a pandas DataFrame to hold some stats for basketball players and append a NumPy array as a new column titled 'blocks':

## import numpy as np

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```
import pandas as pd

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

#create NumPy array for 'blocks'
blocks = np.array()

#add 'blocks' array as new column in DataFrame
df = blocks.tolist()

#display the DataFrame
print(df)
```

points assists rebounds blocks
0 25 5 11 2
1 12 7 8 3
2 15 7 10 1
3 14 9 6 0
4 19 12 6 2
5 23 9 5 7
6 25 9 9 8
7 29 4 12 2

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**Note that the new DataFrame now has an extra column titled *blocks*.**

### Example 2: Add NumPy Matrix as New Columns in DataFrame

**The following code shows how to create a pandas DataFrame to hold some stats for basketball players and append a NumPy array as a new column titled 'blocks':**

```
import numpy as np
import pandas as pd

#create pandas DataFrame
df = pd.DataFrame({'points': ,
,
,
,
,
,
])

#add NumPy matrix as new columns in DataFrame
df_new = pd.concat(, axis=1)
```

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**#display new DataFrame**
**print(df_new)**

**points assists rebounds 0 1**
**0 25 5 11 2 3**
**1 12 7 8 1 0**
**2 15 7 10 2 7**
**3 14 9 6 8 2**
**4 19 12 6 3 4**
**5 23 9 5 7 7**
**6 25 9 9 7 5**
**7 29 4 12 6 3**

**Note that the names of the columns for the matrix that we added to the DataFrame are given default column names of 0 and 1.**

**We can easily rename these columns using the df.columns function:**

**#rename columnsdf_new.columns = #display DataFrameprint(df_new)**
**pts ast rebs new1 new2**
**0 25 5 11 2 3**
**1 12 7 8 1 0**

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2 15 7 10 2 7

3 14 9 6 8 2

4 19 12 6 3 4

5 23 9 5 7 7

6 25 9 9 7 5

7 29 4 12 6 3

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## How to Merge Two Pandas DataFrames on Index

## How to Rename Columns in Pandas

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