

# How can I find the closest value in a Pandas DataFrame, and can you provide an example?

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## RECOMMENDED CITATION

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The process of finding the closest value in a Pandas DataFrame involves using the built-in functions and methods provided by the library. This can be achieved by first selecting the column or row that contains the values to be compared, and then using the "idxmin" or "idxmax" functions to find the index of the closest value. An example of this would be using the "idxmin" function to find the index of the minimum value in a column, and then using that index to retrieve the closest value to that minimum in another column.

## Find Closest Value in Pandas DataFrame (With Example)

You can use the following basic syntax to find the row in a pandas DataFrame that contains the value closest to some specified value in a particular column:

```
#find row with closest value to 101 in points column  
df_closest = df.iloc[df['points'].abs()-101].argsort()
```

The following example shows how to use this syntax in practice.

**Example: Find Closest Value in Pandas DataFrame**

Suppose we have the following pandas DataFrame that contains the number of points scored by various basketball teams:

```
import pandas as pd
```

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

```
#view DataFrame  
print(df)
```

```
team points  
0 Mavs 99  
1 Nets 100  
2 Hawks 96  
3 Kings 104  
4 Spurs 89  
5 Cavs 93
```

Now suppose we would like to select the row in the DataFrame that contains a value in the points column that is closest to 101.

We can use the following syntax to do so:

```
#find row with closest value to 101 in points column  
df_closest = df.iloc[101].abs().argsort()]  
  
#view results  
print(df_closest)
```

## team points

### 1 Nets 100

From the output we can see that the Nets have a value in the points column closest to 101.

Note that we could also use `tolist()` to only display the closest value itself instead of the entire row in the pandas DataFrame:

```
#display value closest to 101 in the points column  
df_closest.tolist()
```

Also note that we can change the value after the `argsort()` function to find several closest values.

For example, we can use the following syntax to find the rows in the DataFrame with the 2 closest values to 101 in the points column:

```
#find rows with two closest values to 101 in points  
column  
df_closest2 = df.iloc[-101].abs().argsort()]
```

```
#view resultsprint(df_closest2)
```

```
team points
```

```
1 Nets 100
```

```
0 Mavs 99
```

From the output we can see that the Nets have the closest value to 101 in the points column while the Mavs have the next closest value to 101 in the points column.