

How can I use apply and lambda together in Pandas?

Authored by
stats writer

June 28, 2024

RECOMMENDED CITATION

stats writer (2024). *How can I use apply and lambda together in Pandas?*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=155721>

The combination of apply and lambda in Pandas allows users to apply a custom function to a DataFrame or Series in a concise and efficient manner. Apply allows for the application of a function to each row or column of a DataFrame, while lambda enables the creation of anonymous functions that can be used within apply. This allows for flexible and dynamic data manipulation, making it a powerful tool for data analysis and processing in Pandas.

Pandas: Use Apply & Lambda Together

You can use the following basic syntax to apply a lambda function to a pandas DataFrame:

```
df = df.apply(lambda x: 'value1' if x < 20 else 'value2')
```

The following examples show how to use this syntax in practice with the following pandas DataFrame:

```
import pandas as pd

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

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

```
team points assists
0 A 18 5
```

1 B 22 7

2 C 19 7

3 D 14 9

4 E 14 12

5 F 11 9

6 G 20 9

7 H 28 4

Example 1: Use Apply and Lambda to Create New Column

The following code shows how to use apply and lambda to create a new column whose values are dependent on the values of an existing column:

```
#create new column called 'status'
```

```
df = df.apply(lambda x: 'Bad' if x < 20 else 'Good')
```

```
#view updated DataFrame
```

```
print(df)
```

```
team points assists status
```

```
0 A 18 5 Bad
```

```
1 B 22 7 Good
```

```
2 C 19 7 Bad
```

```
3 D 14 9 Bad
```

4 E 14 12 Bad

5 F 11 9 Bad

6 G 20 9 Good

7 H 28 4 Good

In this example, we created a new column called status that took on the following values:

'Bad' if the value in the points column was less than 20. 'Good' if the value in the points column was greater than or equal to 20.

Example 2: Use Apply and Lambda to Modify Existing Column

The following code shows how to use apply and lambda to modifying an existing column in the DataFrame:

```
#modify existing 'points' column
```

```
df = df.apply(lambda x: x/2 if x < 20 else x*2)
```

```
#view updated DataFrame
```

```
print(df)
```

```
team points assists
```

```
0 A 9.0 5
```

```
1 B 44.0 7
```

2 C 9.5 7

3 D 7.0 9

4 E 7.0 12

5 F 5.5 9

6 G 40.0 9

7 H 56.0 4

In this example, we modified the values in the existing points column by using the following rule in the lambda function:

If the value is less than 20, divide the value by 2. If the value is greater than or equal to 20, multiply the value by 2.

Using this lambda function, we were able to modify the values in the existing points column.

Additional Resources

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