**Python Programming Guide**

## **numpy**

*Functions*

*Attributes*

*Methods*

## **pandas**

*Functions*

*Attributes*

*Methods*

## **DataFrame**

*Functions*

*Attributes*

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.apply(func, [axis])

Pattern 1 🡪 def func(x):

df = df.apply(func)

*func() is applied to every element in df (x takes on the value of each element in df)*

Pattern 2 🡪 def func(x, y, z):

df = df.apply(func, y=some\_value, z=some\_value)