



# Functions and **Maps**



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# Function

In pandas, `function()` refers to custom functions applied to Series or DataFrames for data manipulation or analysis.

```
import pandas as pd

# Create a DataFrame
df = pd.DataFrame({
    'Names': ['Alice', 'Bob', 'Charlie', 'David']
})

# Define a custom function
def greet(name):
    return f"Hello, {name}!"

# Apply the function to the 'Names' column
df['Greeting'] = df['Names'].apply(greet)

print(df)
```

	Names	Greeting
0	Alice	Hello, Alice!
1	Bob	Hello, Bob!
2	Charlie	Hello, Charlie!
3	David	Hello, David!

# Map

In pandas, `map()` applies a function or mapping to each element in a Series for transformation or replacement.

```
import pandas as pd

# Create a DataFrame
df = pd.DataFrame({
    'Numbers': [1, 2, 3, 4, 5]
})

# Define a mapping function
def square(x):
    return x * x

# Apply the function to the 'Numbers' column
df['Squared'] = df['Numbers'].map(square)

print(df)
```

	Numbers	Squared
0	1	1
1	2	4
2	3	9
3	4	16
4	5	25



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Thank you

