

How can I calculate the percent change in Pandas?

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To calculate the percent change in Pandas, one can use the `pct_change()` function which takes in a column or a series of values and returns the percentage difference between each value and the previous one. This function can be used for various applications such as analyzing stock market data, tracking changes in sales data, and monitoring changes in population over time. By using this function, users can easily and accurately calculate the percent change in their data, providing valuable insights for decision making and analysis.

Calculate Percent Change in Pandas

You can use the `pct_change()` function to calculate the percent change between values in pandas:

#calculate percent change between values in pandas

Series

`s.pct_change()`

#calculate percent change between rows in pandas

DataFrame

`df.pct_change()`

The following examples show how to use this function in practice.

Example 1: Percent Change in pandas Series

The following code shows how to calculate percent change between values in a pandas Series:

```
import pandas as pd

#create pandas Series
s = pd.Series()

#calculate percent change between consecutive values
s.pct_change()

0 NaN
1 1.333333
2 -0.142857
3 0.500000
4 0.055556
dtype: float64
```

Here's how these values were calculated:

Index 1: $(14 - 6) / 6 = 1.333333$
Index 2: $(12 - 14) / 14 = -.142857$
Index 3: $(18 - 12) / 12 = 0.5$
Index 4: $(19 - 18) / 18 = .055556$

Note that you can also use the periods argument to calculate the percent change between values at different intervals:

```
import pandas as pd
```

```
#create pandas Series
```

```
s = pd.Series()
```

```
#calculate percent change between values 2 positions  
apart
```

```
s.pct_change( periods=2)
```

```
0 NaN
```

```
1 NaN
```

```
2 1.000000
```

```
3 0.285714
```

```
4 0.583333
```

```
dtype: float64
```

Here's how these values were calculated:

```
Index 2: (12 - 6) / 6 = 1.000000  
Index 3: (18 - 14) / 14 =  
0.285714  
Index 4: (19 - 12) / 12 = .583333
```

Example 2: Percent Change in pandas DataFrame

The following code shows how to calculate the percent change between consecutive rows in a pandas DataFrame:

```
import pandas as pd
```

```
#create DataFrame
df = pd.DataFrame({'period': ,
'sales': })

#view DataFrame
df

period sales
0 1 6
1 2 7
2 3 7
3 4 9
4 5 12

#calculate percent change between consecutive values
in 'sales' column
df = df.pct_change()

#view updated DataFrame
df

period sales sales_pct_change
0 1 6 NaN
1 2 7 0.166667
2 3 7 0.000000
3 4 9 0.285714
4 5 12 0.333333
```

Here is how these values were calculated:

Index 1: $(7 - 6) / 6 = .166667$ Index 2: $(7 - 7) / 7 = 0.000000$ Index 3: $(9 - 7) / 7 = .285714$ Index 4: $(12 - 9) / 9 = .333333$

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