

How can I extract the quarter from a date in Pandas?

Authored by
stats writer

June 26, 2024

RECOMMENDED CITATION

stats writer (2024). *How can I extract the quarter from a date in Pandas?*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=153656>

To extract the quarter from a date in Pandas, you can use the "dt.quarter" function. This function allows you to access the quarter component of a date and return it as a numerical value. It is useful for organizing and analyzing data by quarters, such as in financial or business data. Simply call the "dt.quarter" function on the desired date column in your Pandas dataframe to extract the quarter information. This will allow you to easily group and manipulate data by quarter, providing valuable insights for your analysis.

Pandas: Get Quarter from Date

You can use the following methods to get the quarter from a date in a pandas DataFrame:

Method 1: Get Quarter from Date (Year & Quarter Format)

```
df = pd.PeriodIndex(df.date, freq='Q')
```

If the date is in the first quarter of 2022, this will return the quarter in a format like 2022Q1.

Method 2: Get Quarter from Date (Quarter Number Format)

```
df = df.dt.quarter
```

If the date is in the first quarter of 2022, this will simply return the value 1.

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

```
import pandas as pd
```

```
#create DataFrame
```

```
df = pd.DataFrame({'date':  
pd.date_range(start='1/1/2022', freq='M', periods=14),  
'sales': })
```

```
#view DataFrame
```

```
print(df)
```

```
date sales
```

```
0 2022-01-31 6
```

```
1 2022-02-28 8
```

```
2 2022-03-31 10
```

```
3 2022-04-30 5
```

```
4 2022-05-31 4
```

```
5 2022-06-30 8
```

```
6 2022-07-31 8
```

```
7 2022-08-31 3
```

```
8 2022-09-30 5
```

```
9 2022-10-31 14
```

```
10 2022-11-30 8
```

```
11 2022-12-31 3
12 2023-01-31 10
13 2023-02-28 12
```

Example 1: Get Quarter from Date (Year & Quarter Format)

We can use the following code to create a new column called `quarter` that extracts the quarter from the date column in a year and quarter format:

```
#create new column that displays year and quarter from
date column
```

```
df = pd.PeriodIndex(df.date, freq='Q')
```

```
#view updated DataFrame
```

```
print(df)
```

```
date sales quarter
0 2022-01-31 6 2022Q1
1 2022-02-28 8 2022Q1
2 2022-03-31 10 2022Q1
3 2022-04-30 5 2022Q2
4 2022-05-31 4 2022Q2
5 2022-06-30 8 2022Q2
6 2022-07-31 8 2022Q3
```

```
7 2022-08-31 3 2022Q3
8 2022-09-30 5 2022Q3
9 2022-10-31 14 2022Q4
10 2022-11-30 8 2022Q4
11 2022-12-31 3 2022Q4
12 2023-01-31 10 2023Q1
13 2023-02-28 12 2023Q1
```

The new column called quarter contains the quarter from the date column in a year and quarter format.

Example 2: Get Quarter from Date (Quarter Number Format)

We can use the following code to create a new column called quarter that extracts the quarter from the date column in a quarter number format

```
#create new column that displays quarter from date column
```

```
df = df.dt.quarter
```

```
#view updated DataFrame
```

```
print(df)
```

```
date sales quarter
```

```
0 2022-01-31 6 1
1 2022-02-28 8 1
2 2022-03-31 10 1
3 2022-04-30 5 2
4 2022-05-31 4 2
5 2022-06-30 8 2
6 2022-07-31 8 3
7 2022-08-31 3 3
8 2022-09-30 5 3
9 2022-10-31 14 4
10 2022-11-30 8 4
11 2022-12-31 3 4
12 2023-01-31 10 1
13 2023-02-28 12 1
```

The new column called quarter contains the quarter number from the date column in a quarter number format.

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