

How can I use Pandas to calculate the number of business days between a given start and end date?

Authored by
stats writer

June 26, 2024

RECOMMENDED CITATION

stats writer (2024). *How can I use Pandas to calculate the number of business days between a given start and end date?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=153688>

Pandas is a popular Python library used for data analysis and manipulation. One of its useful features is the ability to calculate the number of business days between a given start and end date. This can be achieved by using the built-in function "business_day_count" which takes in the start and end dates as parameters. The function considers weekends and holidays as non-business days, providing an accurate count of the actual business days between the two dates. This feature of Pandas can be utilized in various data analysis tasks that involve tracking the duration of projects, financial transactions, or any other time-sensitive events.

Pandas: Get Business Days Between Start & End Date

You can use the following methods to get business days in pandas:

Method 1: Get Business Days (excludes all weekends)

```
business_days = pd.bdate_range('2022-01-01',  
'2022-12-31')
```

Method 2: Get Business Days (excludes all weekends *and* Federal holidays)

```
from pandas.tseries.holiday import  
USFederalHolidayCalendar  
from pandas.tseries.offsets import CustomBusinessDay  
  
#define US business days  
us_bus = CustomBusinessDay(calendar=USFederalHolidayCalen
```

dar())

#get all business days between certain start and end dates

```
us_business_days = pd.bdate_range('2022-01-01',  
'2022-12-31', freq=us_bus)
```

The following examples show how to use each method in practice.

Example 1: Get Business Days (excludes all weekends)

One way to get a list of business days between two dates in pandas is to use the `bdate_range()` function.

It's worth noting that this function simply counts the number of days between a start and end date, excluding weekends.

For example, we can use the following syntax to count the number of business days between 1/1/2022 and 12/31/2022:

```
import pandas as pd
```

#get all business days between certain start and end

dates

```
business_days = pd.bdate_range('2022-01-01',  
'2022-12-31')
```

```
#view first ten business days  
print(business_days)
```

```
DatetimeIndex(  
dtype='datetime64', freq='B')
```

```
#view total number of business days  
len(business_days)
```

260

The object called `business_days` contains every business day between the specified start and end dates.

And by using the `len()` function, we see that the total number of business days between the specified start and end dates is 260.

Example 2: Get Business Days (excludes all weekends *and* Federal holidays)

To get a list of business days between two dates in

pandas that excludes both weekends and Federal holidays, we must use functions from the pandas tseries module.

For example, we can use the following syntax to count the number of business days (all days excluding weekends and Federal holidays) between 1/1/2022 and 12/31/2022:

```
from pandas.tseries.holiday import  
USFederalHolidayCalendar  
from pandas.tseries.offsets import CustomBusinessDay  
  
#define US business days  
us_bus = CustomBusinessDay(calendar=USFederalHolidayCalendar())  
  
#get all business days between certain start and end dates  
us_business_days = pd.bdate_range('2022-01-01',  
'2022-12-31', freq=us_bus)  
  
#view first ten business days  
print(us_business_days)
```

```
DatetimeIndex(  
dtype='datetime64', freq='C')
```

```
#view total number of business days
```

```
len(us_business_days)
```

```
250
```

And by using the `len()` function, we see that the total number of business days between the specified start and end dates is 250.

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