```
url =
"https://archive.ics.uci.edu/static/public/275/bike+sharing+dataset.zip"

import requests

response = requests.get(url)

response
```

```
<Response [200]>
```

```
dir(response)
```

```
['__attrs__',
 '__bool__',
 '__class__',
 '__delattr__',
 '__dict__',
 '__dir__',
 '__doc__',
 '__enter__',
 '__eq__',
 '__exit__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__lt__',
 '__module__',
 '__ne__',
 '__new__',
 '__nonzero__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__setattr__',
 '__setstate__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 '__weakref__',
 '_content',
 '_content_consumed',
 '_next',
```

```
 'apparent_encoding',
 'close',
 'connection',
 'content',
 'cookies',
 'elapsed',
 'encoding',
 'headers',
 'history',
 'is_permanent_redirect',
 'is_redirect',
 'iter_content',
 'iter_lines',
 'json',
 'links',
 'next',
 'ok',
 'raise_for_status',
 'raw',
 'reason',
 'request',
 'status_code',
 'text',
 'url']
```

```
# response.content

with open("bike.zip", "wb") as f:
    f.write(response.content)

import zipfile

with zipfile.ZipFile("bike.zip") as zipped:
    zipped.extractall("bikeshare")

import csv

import json

import pandas as pd

path = "bikeshare\day.csv"

bike = pd.read_csv(path)

bike
```

```
     instant      dteday  season  yr  mnth  holiday  weekday
workingday
0          1  2011-01-01       1   0     1        0        6
0  \
1          2  2011-01-02       1   0     1        0        0
```

```
0
2          3  2011-01-03       1   0     1        0        1
1
3          4  2011-01-04       1   0     1        0        2
1
4          5  2011-01-05       1   0     1        0        3
1
..       ...         ...     ...  ..   ...      ...      ...          .
..
726      727  2012-12-27       1   1    12        0        4
1
727      728  2012-12-28       1   1    12        0        5
1
728      729  2012-12-29       1   1    12        0        6
0
729      730  2012-12-30       1   1    12        0        0
0
730      731  2012-12-31       1   1    12        0        1
1

     weathersit      temp     atemp       hum  windspeed  casual
registered
0             2  0.344167  0.363625  0.805833   0.160446     331
654  \
1             2  0.363478  0.353739  0.696087   0.248539     131
670
2             1  0.196364  0.189405  0.437273   0.248309     120
1229
3             1  0.200000  0.212122  0.590435   0.160296     108
1454
4             1  0.226957  0.229270  0.436957   0.186900      82
1518
..          ...       ...       ...       ...        ...     ...
...
726           2  0.254167  0.226642  0.652917   0.350133     247
1867
727           2  0.253333  0.255046  0.590000   0.155471     644
2451
728           2  0.253333  0.242400  0.752917   0.124383     159
1182
729           1  0.255833  0.231700  0.483333   0.350754     364
1432
730           2  0.215833  0.223487  0.577500   0.154846     439
2290

      cnt
0     985
1     801
2    1349
```

```
3    1562
4    1600
..    ...
726  2114
727  3095
728  1341
729  1796
730  2729

[731 rows x 16 columns]
```

```
bike.shape
```

```
(731, 16)
```

```
bike.info()
```

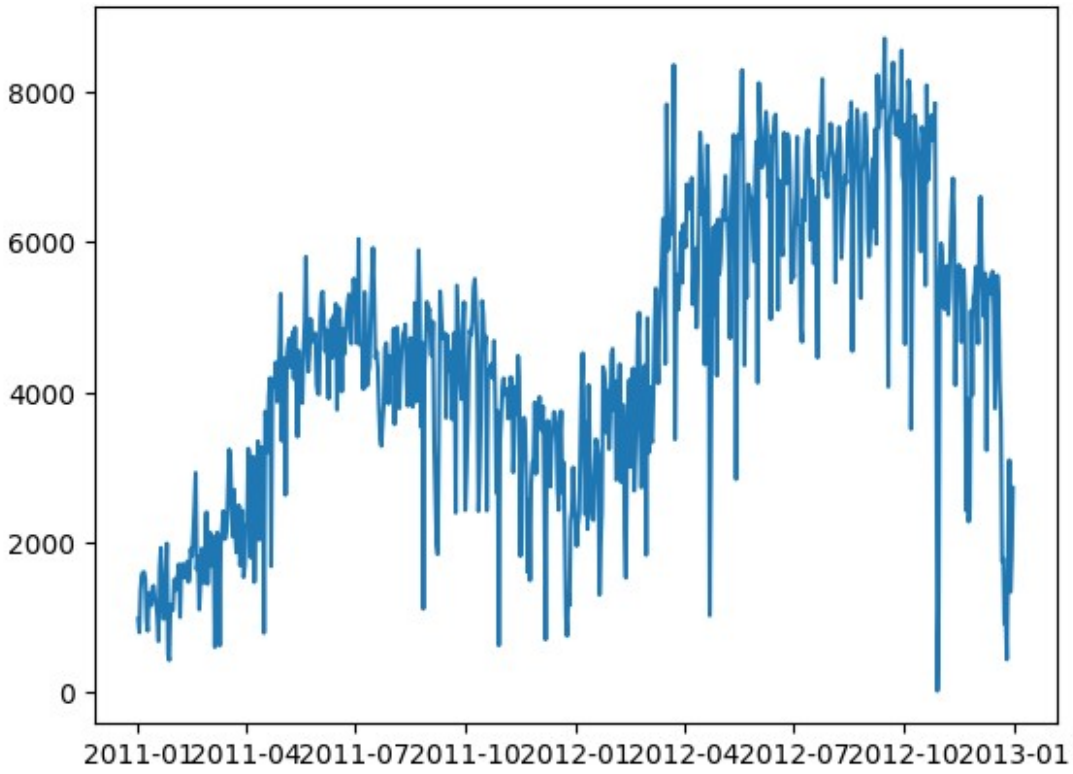
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 731 entries, 0 to 730
Data columns (total 16 columns):
 #   Column      Non-Null Count  Dtype  
---  ------      --------------  -----  
 0   instant     731 non-null    int64  
 1   dteday      731 non-null    object 
 2   season      731 non-null    int64  
 3   yr          731 non-null    int64  
 4   mnth        731 non-null    int64  
 5   holiday     731 non-null    int64  
 6   weekday     731 non-null    int64  
 7   workingday  731 non-null    int64  
 8   weathersit  731 non-null    int64  
 9   temp        731 non-null    float64
 10  atemp       731 non-null    float64
 11  hum         731 non-null    float64
 12  windspeed   731 non-null    float64
 13  casual      731 non-null    int64  
 14  registered  731 non-null    int64  
 15  cnt         731 non-null    int64  
dtypes: float64(4), int64(11), object(1)
memory usage: 91.5+ KB
```

```
bike.columns
```

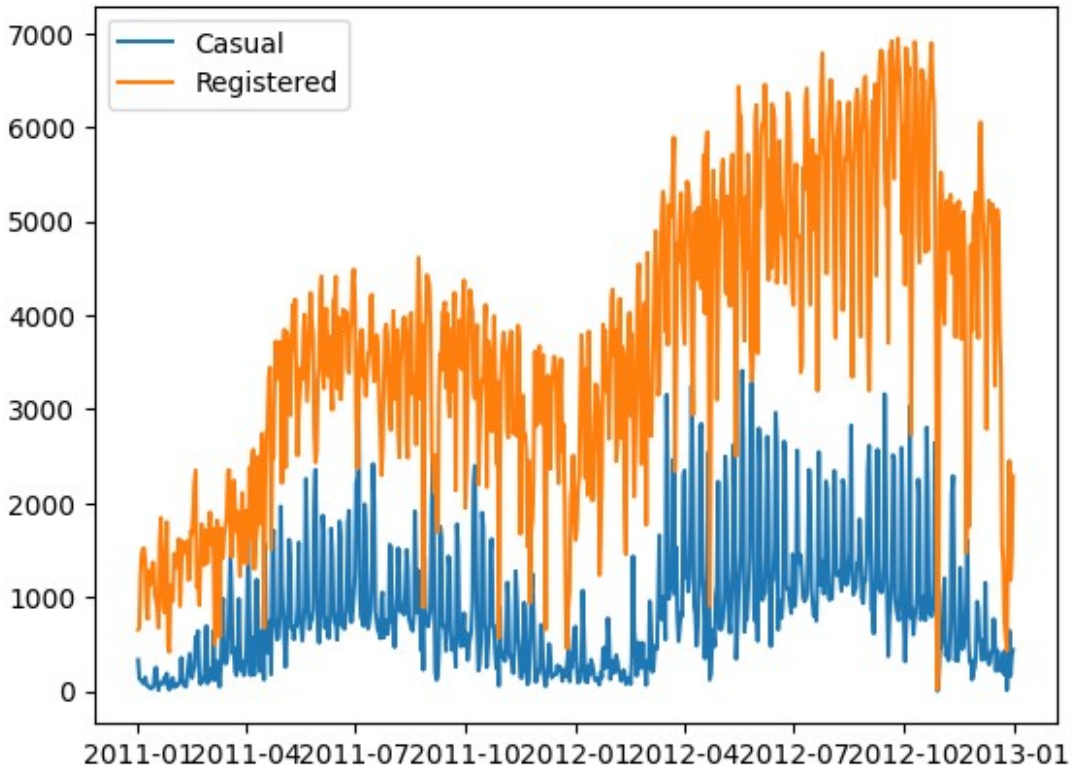
```
Index(['instant', 'dteday', 'season', 'yr', 'mnth', 'holiday',
'weekday',
       'workingday', 'weathersit', 'temp', 'atemp', 'hum',
'windspeed',
       'casual', 'registered', 'cnt'],
      dtype='object')
```

```
bike['dteday'] = pd.to_datetime(bike.dteday)
```

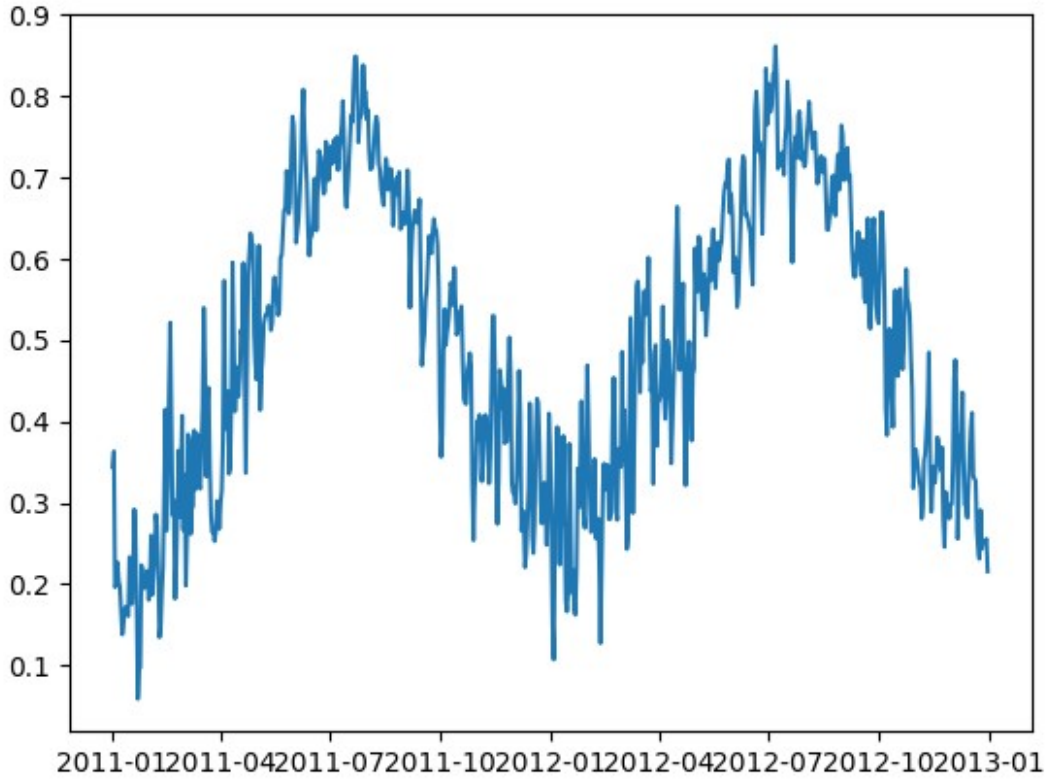
```
import matplotlib.pyplot as plt

plt.plot(bike.dteday, bike.cnt)
plt.show()
```



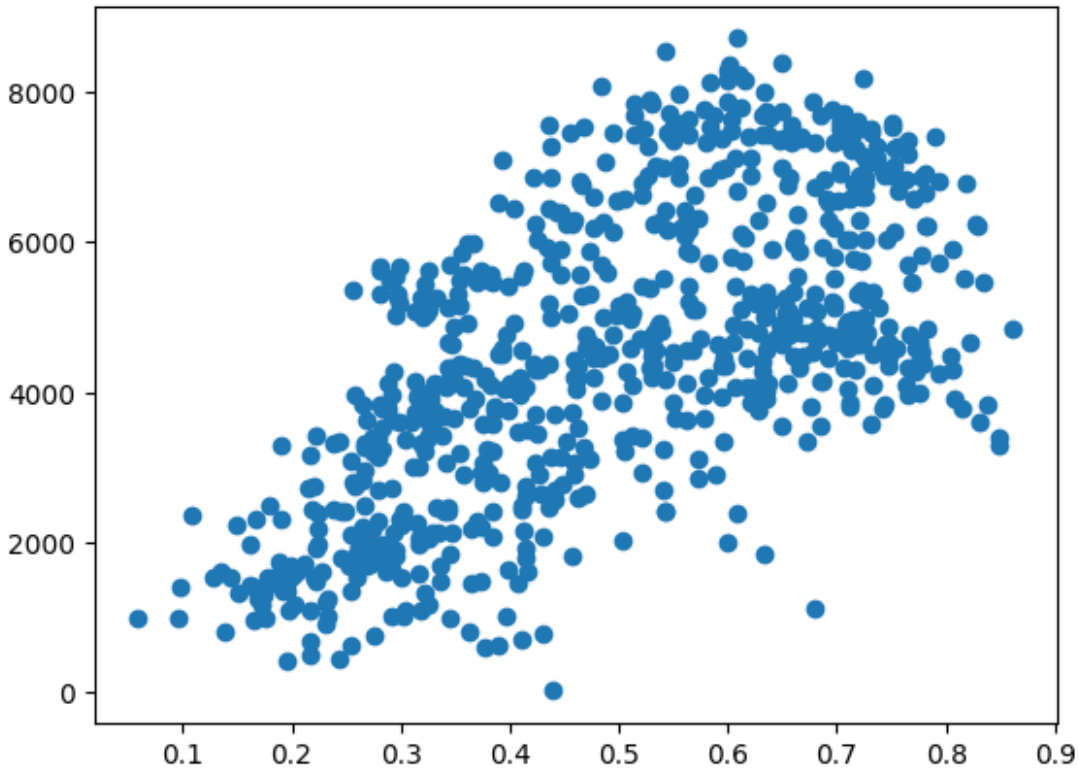

```
plt.plot(bike.dteday, bike.casual, label = "Casual")
plt.plot(bike.dteday, bike.registered, label = "Registered")
plt.legend()
plt.show()
```




```
plt.plot(bike.dteday, bike.temp)
plt.show()
```




```
plt.scatter(bike.temp, bike.cnt)
plt.show()
```




```
+0.8 -0.8
```

```
+0.2 -0.6
```

```
bike["temp"].corr(bike["cnt"])
```

```
0.6274940090334918
```

```
bike["cnt"].corr(bike["temp"])
```

```
0.6274940090334918
```

```
bike.corr()
```

```
             instant    dteday    season        yr      mnth   holiday
instant     1.000000  1.000000  0.412224  0.866025  0.496702  0.016145
\
dteday      1.000000  1.000000  0.412224  0.866025  0.496702  0.016145
season      0.412224  0.412224  1.000000 -0.001844  0.831440 -0.010537
yr          0.866025  0.866025 -0.001844  1.000000 -0.001792  0.007954
mnth        0.496702  0.496702  0.831440 -0.001792  1.000000  0.019191
holiday     0.016145  0.016145 -0.010537  0.007954  0.019191  1.000000
```

```
weekday    -0.000016 -0.000016 -0.003080 -0.005461  0.009509 -0.101960

workingday -0.004337 -0.004337  0.012485 -0.002013 -0.005901 -0.253023

weathersit -0.021477 -0.021477  0.019211 -0.048727  0.043528 -0.034627

temp        0.150580  0.150580  0.334315  0.047604  0.220205 -0.028556

atemp       0.152638  0.152638  0.342876  0.046106  0.227459 -0.032507

hum         0.016375  0.016375  0.205445 -0.110651  0.222204 -0.015937

windspeed  -0.112620 -0.112620 -0.229046 -0.011817 -0.207502  0.006292

casual      0.275255  0.275255  0.210399  0.248546  0.123006  0.054274

registered  0.659623  0.659623  0.411623  0.594248  0.293488 -0.108745

cnt         0.628830  0.628830  0.406100  0.566710  0.279977 -0.068348


              weekday  workingday  weathersit      temp     atemp
hum
instant    -0.000016   -0.004337   -0.021477  0.150580  0.152638
0.016375  \
dteday     -0.000016   -0.004337   -0.021477  0.150580  0.152638
0.016375
season     -0.003080    0.012485    0.019211  0.334315  0.342876
0.205445
yr         -0.005461   -0.002013   -0.048727  0.047604  0.046106 -
0.110651
mnth        0.009509   -0.005901    0.043528  0.220205  0.227459
0.222204
holiday    -0.101960   -0.253023   -0.034627 -0.028556 -0.032507 -
0.015937
weekday     1.000000    0.035790    0.031087 -0.000170 -0.007537 -
0.052232
workingday  0.035790    1.000000    0.061200  0.052660  0.052182
0.024327
weathersit  0.031087    0.061200    1.000000 -0.120602 -0.121583
0.591045
temp       -0.000170    0.052660   -0.120602  1.000000  0.991702
0.126963
atemp      -0.007537    0.052182   -0.121583  0.991702  1.000000
0.139988
hum        -0.052232    0.024327    0.591045  0.126963  0.139988
1.000000
windspeed   0.014282   -0.018796    0.039511 -0.157944 -0.183643 -
0.248489
```

```
casual      0.059923   -0.518044   -0.247353  0.543285  0.543864 -
0.077008
registered  0.057367    0.303907   -0.260388  0.540012  0.544192 -
0.091089
cnt         0.067443    0.061156   -0.297391  0.627494  0.631066 -
0.100659
```

```
            windspeed    casual  registered       cnt
instant     -0.112620  0.275255    0.659623  0.628830
dteday      -0.112620  0.275255    0.659623  0.628830
season      -0.229046  0.210399    0.411623  0.406100
yr          -0.011817  0.248546    0.594248  0.566710
mnth        -0.207502  0.123006    0.293488  0.279977
holiday      0.006292  0.054274   -0.108745 -0.068348
weekday      0.014282  0.059923    0.057367  0.067443
workingday  -0.018796 -0.518044    0.303907  0.061156
weathersit   0.039511 -0.247353   -0.260388 -0.297391
temp        -0.157944  0.543285    0.540012  0.627494
atemp       -0.183643  0.543864    0.544192  0.631066
hum         -0.248489 -0.077008   -0.091089 -0.100659
windspeed    1.000000 -0.167613   -0.217449 -0.234545
casual      -0.167613  1.000000    0.395282  0.672804
registered  -0.217449  0.395282    1.000000  0.945517
cnt         -0.234545  0.672804    0.945517  1.000000
```

```
correlations_df = bike.corr()
```

```
correlations_df["workingday"]
```

```
instant      -0.004337
dteday       -0.004337
season        0.012485
yr           -0.002013
mnth         -0.005901
holiday      -0.253023
weekday       0.035790
workingday    1.000000
weathersit    0.061200
temp          0.052660
atemp         0.052182
hum           0.024327
windspeed    -0.018796
casual       -0.518044
registered    0.303907
cnt           0.061156
Name: workingday, dtype: float64
```

```
correlations_df["workingday"][["casual", "registered"]]
```

```
casual       -0.518044
registered    0.303907
Name: workingday, dtype: float64
```