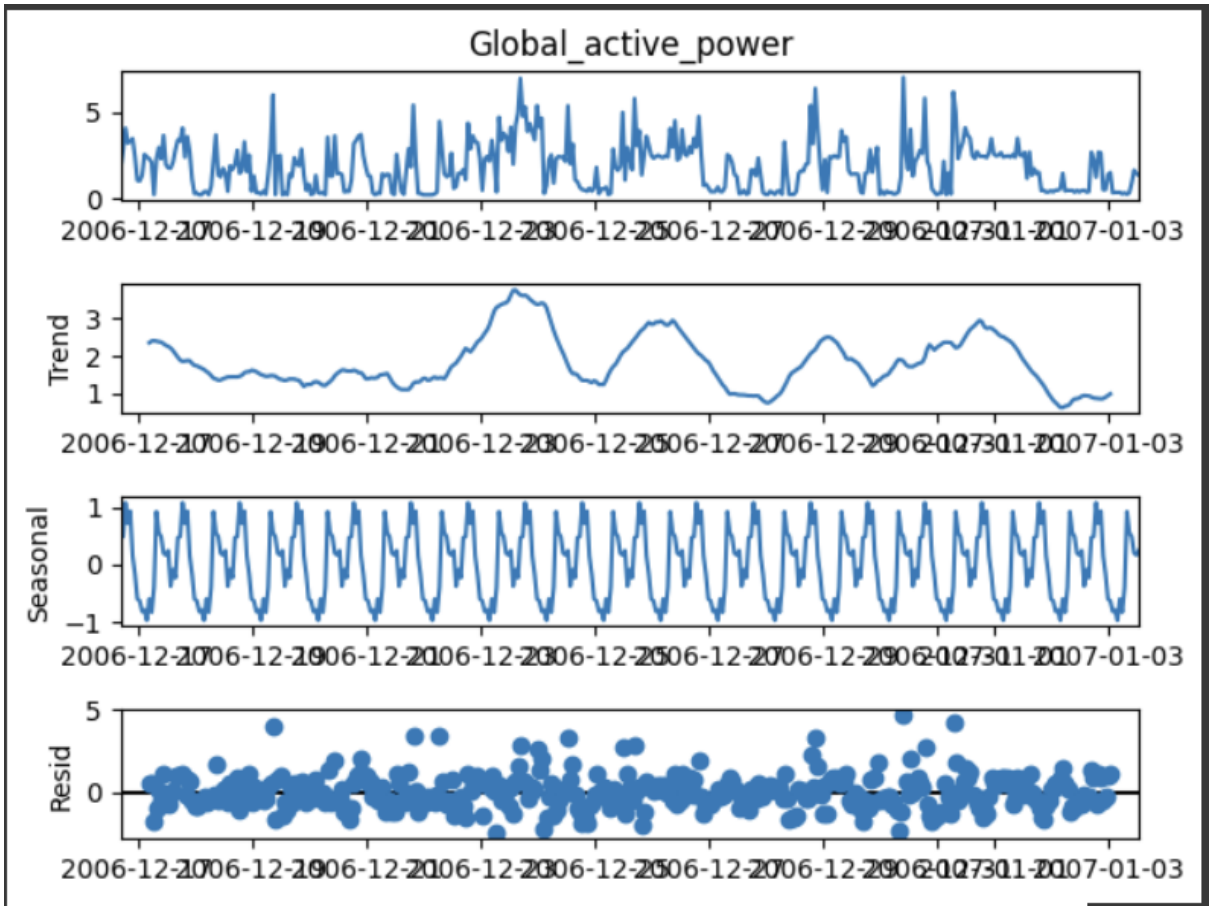
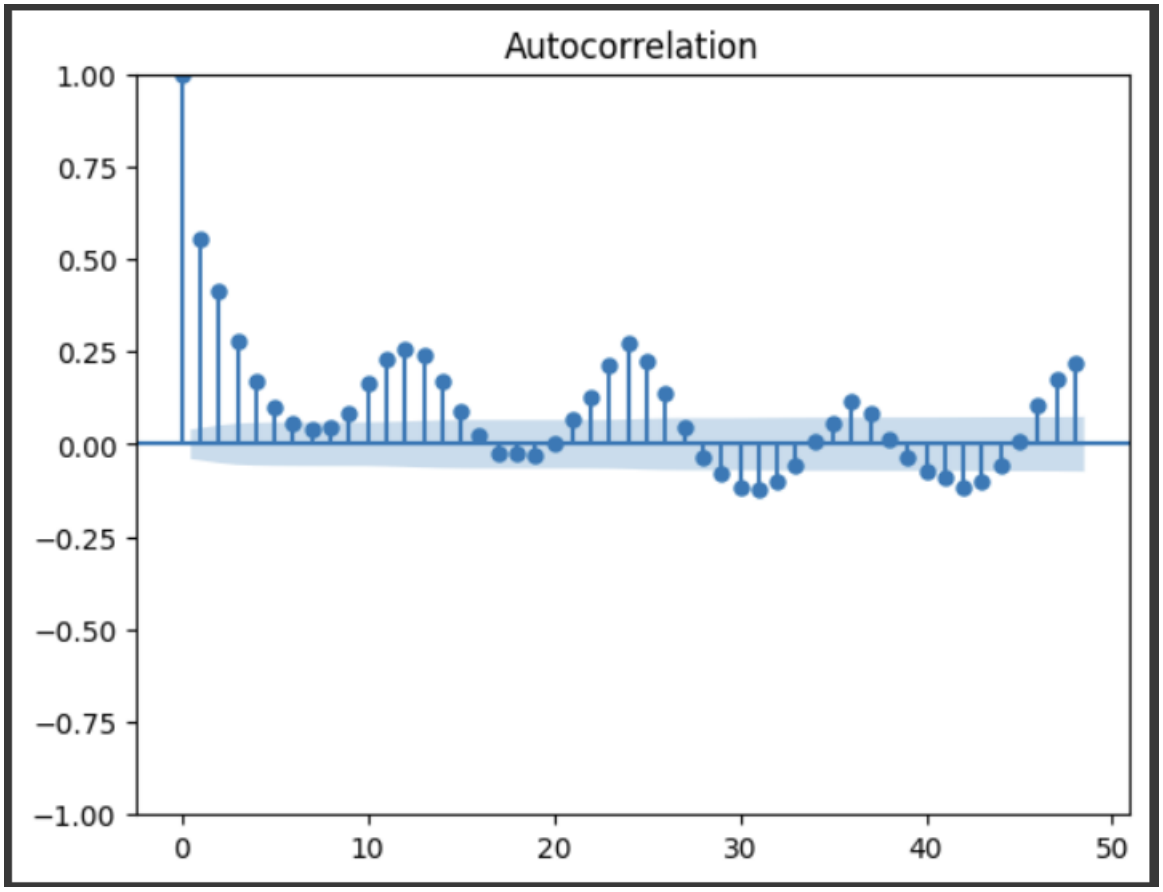
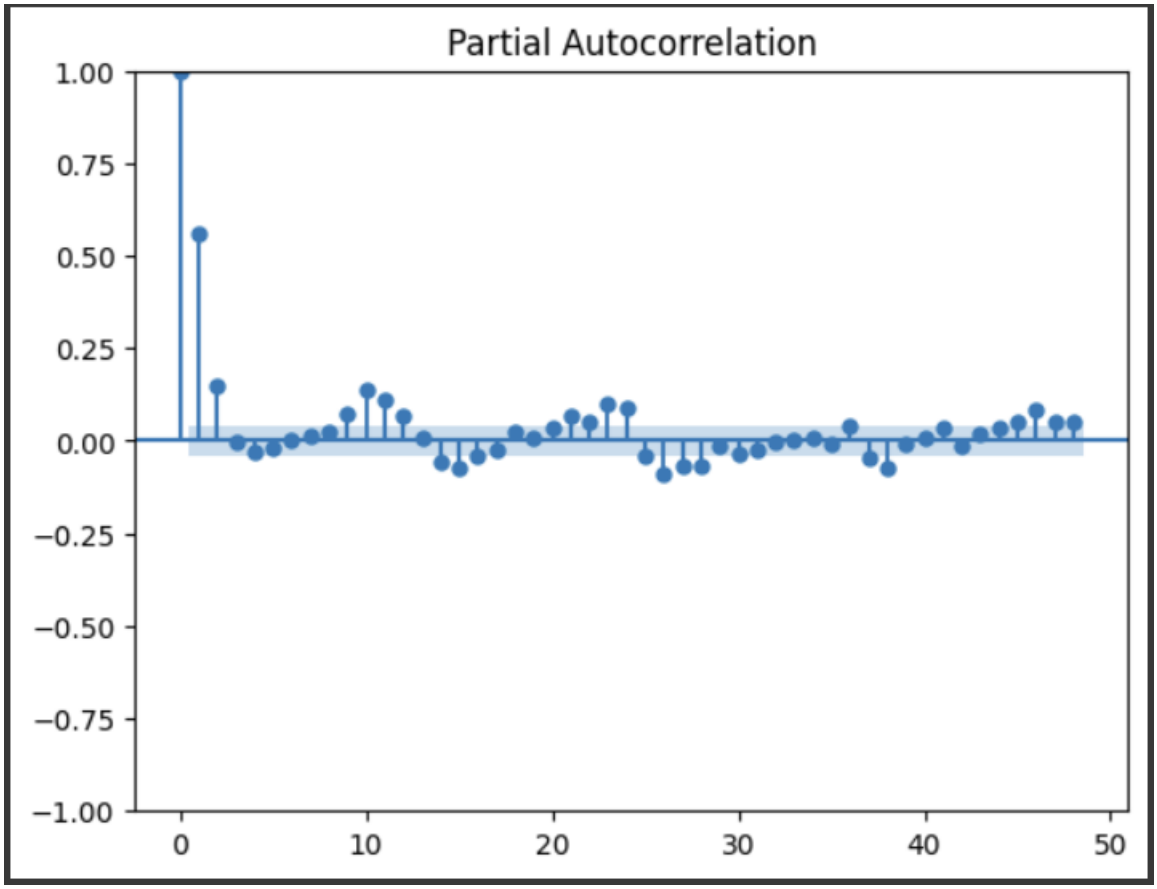
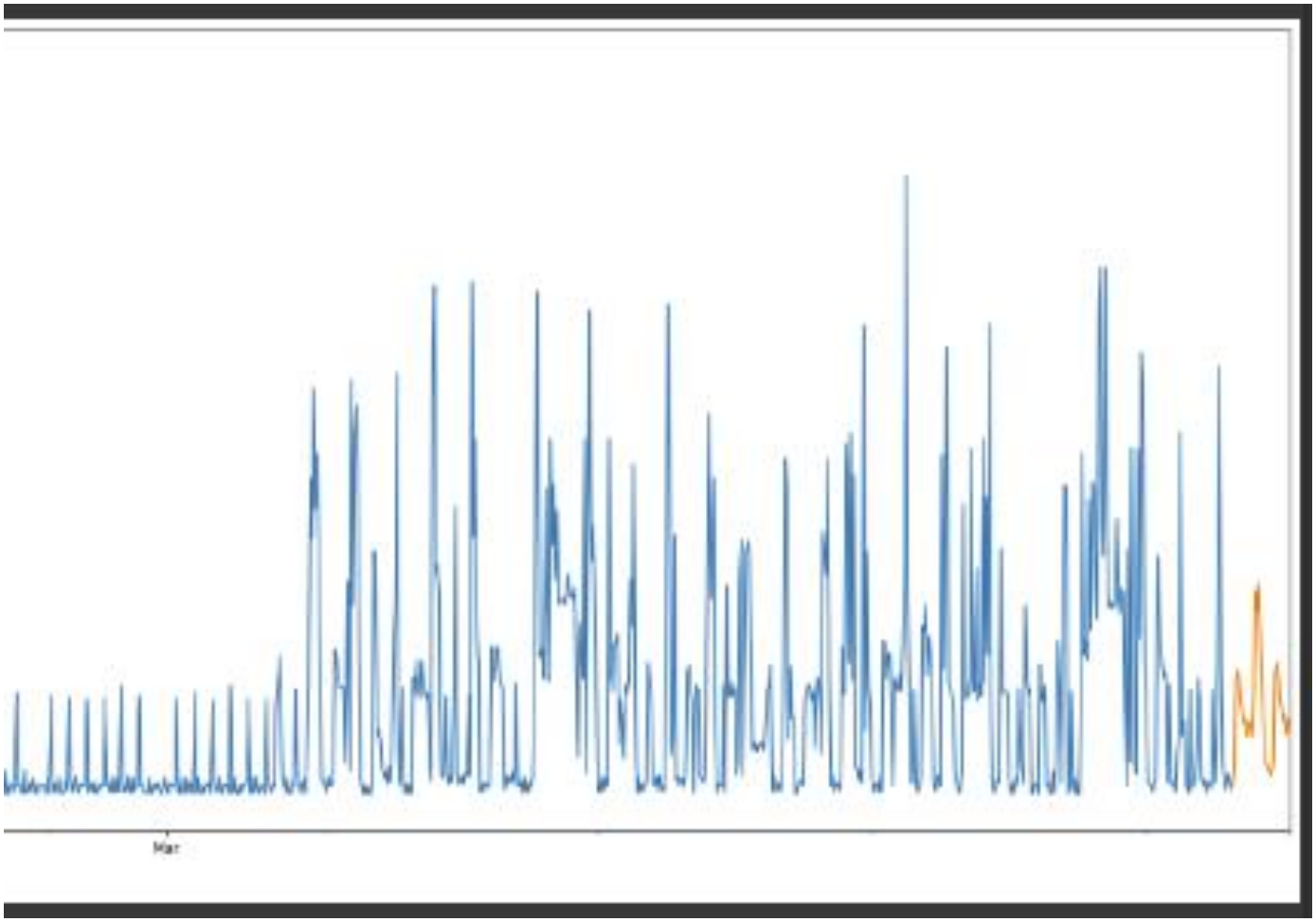
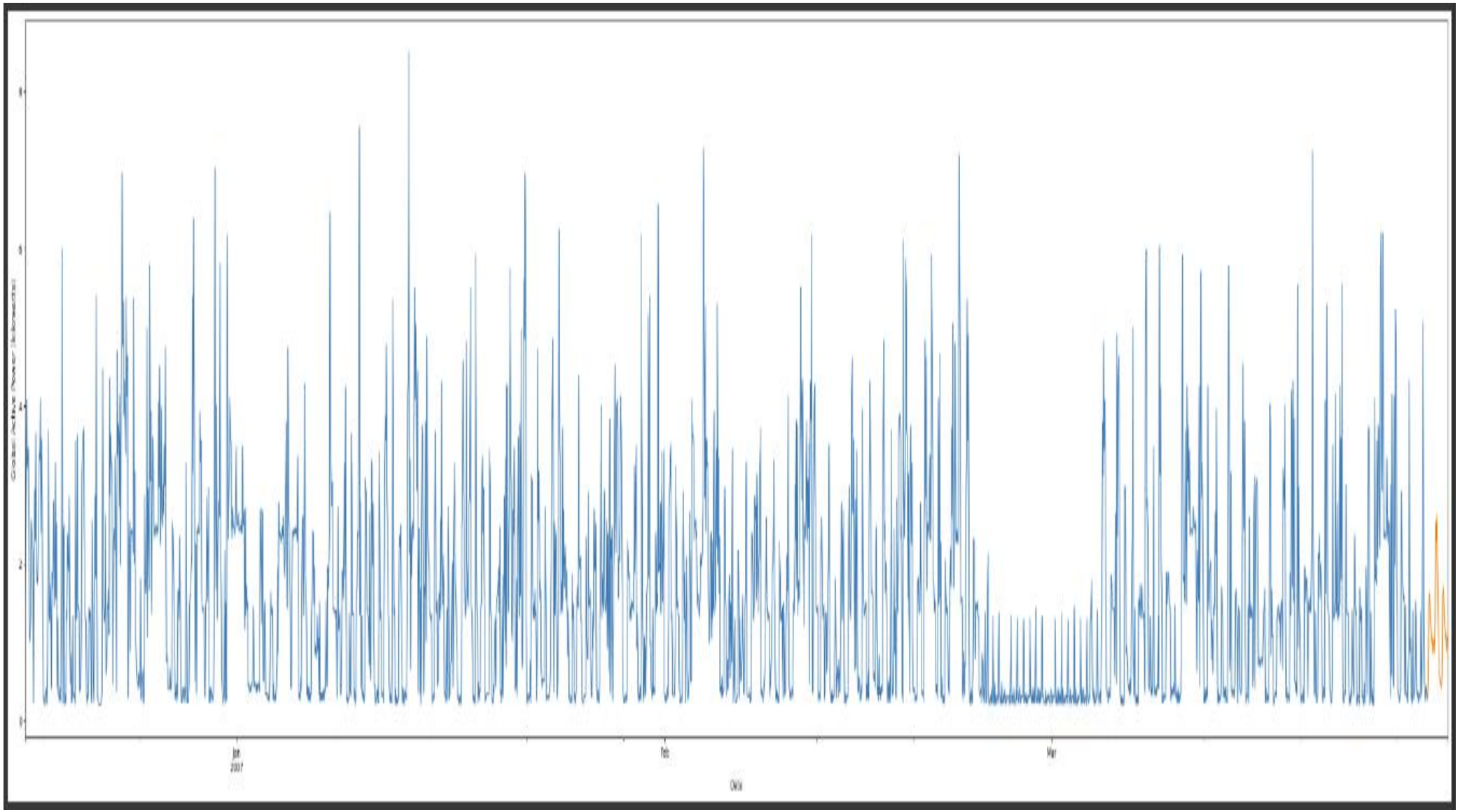

Global_active_power
Trend
Seasonal
Resid
2006-12-17
2006-12-19
2006-12-21
2006-12-23
2006-12-25
2006-12-27
2006-12-29
2007-01-31
2007-01-03


Autocorrelation
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
0
10
20
30
40
50


Partial Autocorrelation
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
0
10
20
30
40
50




Jan
2017
Feb
Mar

```
                                SARIMAX Results
==========================================================================================
Dep. Variable:                 Global_active_power   No. Observations:                 2436
Model:            SARIMAX(2, 1, 2)x(0, 1, [1], 24)   Log Likelihood               -3489.670
Date:                             Fri, 14 Apr 2023   AIC                           6991.341
Time:                                     14:24:09   BIC                           7026.000
Sample:                                 12-16-2006   HQIC                          7003.954
                                      - 03-28-2007
Covariance Type:                              opg
==============================================================================
                 coef    std err          z      P>|z|      [0.025      0.975]
------------------------------------------------------------------------------
ar.L1          1.0121      0.056     18.127      0.000       0.903       1.122
ar.L2         -0.1210      0.037     -3.295      0.001      -0.193      -0.049
ma.L1         -1.6431      0.178     -9.224      0.000      -1.992      -1.294
ma.L2          0.6431      0.119      5.425      0.000       0.411       0.876
ma.S.L24      -0.9677      0.008   -125.194      0.000      -0.983      -0.953
sigma2         1.0662      0.192      5.548      0.000       0.690       1.443
==============================================================================
Ljung-Box (L1) (Q):                   0.06   Jarque-Bera (JB):              1956.55
Prob(Q):                              0.81   Prob(JB):                         0.00
Heteroskedasticity (H):               0.75   Skew:                             1.31
Prob(H) (two-sided):                  0.00   Kurtosis:                         6.59
==========================================================================================
```

Data Set Source:

https://archive.ics.uci.edu/ml/datasets/Individual+household+electric+power+consumption

Data Set Information:

This archive contains 2075259 measurements gathered in a house located in Sceaux (7km of Paris, France) between December 2006 and November 2010 (47 months).
Notes:
1.(global_active_power*1000/60 - sub_metering_1 - sub_metering_2 - sub_metering_3) represents the active energy consumed every minute (in watt hour) in the household by electrical equipment not measured in sub-meterings 1, 2 and 3.
2.The dataset contains some missing values in the measurements (nearly 1,25% of the rows). All calendar timestamps are present in the dataset but for some timestamps, the measurement values are missing: a missing value is represented by the absence of value between two consecutive semi-colon attribute separators. For instance, the dataset shows missing values on April 28, 2007.

Attribute Information:

1.date: Date in format dd/mm/yyyy
2.time: time in format hh:mm:ss
3.global_active_power: household global minute-averaged active power (in kilowatt)
4.global_reactive_power: household global minute-averaged reactive power (in kilowatt)
5.voltage: minute-averaged voltage (in volt)
6.global_intensity: household global minute-averaged current intensity (in ampere)
7.sub_metering_1: energy sub-metering No. 1 (in watt-hour of active energy). It corresponds to the kitchen, containing mainly a dishwasher, an oven and a microwave (hot plates are not electric but gas powered).
8.sub_metering_2: energy sub-metering No. 2 (in watt-hour of active energy). It corresponds to the laundry room, containing a washing-machine, a tumble-drier, a refrigerator and a light.
9.sub_metering_3: energy sub-metering No. 3 (in watt-hour of active energy). It corresponds to an electric water-heater and an air-conditioner.

About The Data Set:

The dataset was collected using Internet of Things (IoT) devices. Specifically, it was collected from a single house located in Sceaux, France, between December 2006 and November 2010 using a set of sensors that measured various electrical quantities (voltage, current, power, etc.) at a frequency of 1 minute.