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2. Program membuat return-series, dekomposisi MODWT, grafik kovarian dan korelasi.

```
library(waveslim)
library(biwavelet)

#####
#Program untuk menghasilkan Return-series
#####
d2<-read.table("/Users/m/Wavelet for
Workshop/DDTA.csv",header=T,sep=",")
Data1<-d2[c("Energi", "Temperatur")]
Data<- ts(Data1,start=c(2018,2), freq=365)
plot.ts(Data)

#####
#Program untuk Dekomposisi MODWT Sinyal
#####
Energi <- modwt(Data[, c("Energi")], wf = "la8", n.levels = 6) #melakukan
dekomposisi menggunakan modwt dengan wavelet filter least asymmetric
dengan level dekomposisi 6
Energi1 <-
data.frame(Energi$d1,Energi$d2,Energi$d3,Energi$d4,Energi$d5,Energi$d6,
Energi$s6)
Energi <-ts(Energi1, start=c(2018,2), freq=365)
plot.ts(Energi)
Energi

Temperatur <- modwt(Data[, c("Temperatur")], wf = "la8", n.levels = 6)
#melakukan dekomposisi menggunakan modwt dengan wavelet filter least
asymmetric dengan level dekomposisi 6
Temperatur1 <-
data.frame(Temperatur$d1,Temperatur$d2,Temperatur$d3,Temperatur$d4,Te
mperatur$d5,Temperatur$d6,Temperatur$s6)
Temperatur <-ts(Temperatur1, start=c(2018,2), freq=365)
plot.ts(Temperatur)
Temperatur

#####
Program untuk Menghasilkan Grafik Wavelet Covariance MODWT
```

```
#####
returns <- ts(Data1,start=c(2018,2), freq=365)
wf <- "d4" #menggunakan wavelet filter Daubechies (default)
J <- 6 #observasi menggunakan level skala 26
demusd.modwt <- modwt(returns[, "Energi"], wf, J) #menghasilkan angka
untuk plot modwt untuk variabel x dalam 8 tingkatan (d1,d2,...,d7 dan s7)
demusd.modwt.bw <- brick.wall(demusd.modwt, wf) #mengganti koefisien
wavelet batas dengan NA
jpyusd.modwt <- modwt(returns[, "Temperatur"], wf, J) #menghasilkan angka
untuk plot modwt untuk variabel x dalam 8 tingkatan (d1,d2,...,d7 dan s7)
jpyusd.modwt.bw <- brick.wall(jpyusd.modwt, wf) #mengganti koefisien
wavelet batas dengan NA

n <- dim(returns)[1]
returns.modwt.cov <- wave.covariance(demusd.modwt.bw,
jpyusd.modwt.bw) #menghasilkan nilai batas atas, batas bawah, dan nilai
kovariansi wavelet untuk setiap level dekomposisi
par(mfrow=c(1,1), las=0, mar=c(5,4,4,2)+.1)
matplot(2^(0:(J-1)), returns.modwt.cov[-(J+1),], type="b", log="x",
pch="*LU", xaxt="n", lty=1, col=c(1,4,4), xlab="Wavelet Scale",
ylab="Wavelet Covariance") #membuat plot kovariansi
axis(side=1, at=2^(0:7))
abline(h=0)

#####
Program untuk Menghasilkan Grafik Wavelet Correlation MODWT
#####
returns.modwt.cor <- wave.correlation(demusd.modwt.bw, jpyusd.modwt.bw,
N = dim(returns)[1]) #menghasilkan nilai batas atas,
batas bawah, dan nilai korelasi wavelet untuk setiap level dekomposisi
par(mfrow=c(1,1), las=0, mar=c(5,4,4,2)+.1)
matplot(2^(0:(J-1)), returns.modwt.cor[-(J+1),], type="b", log="x",
pch="*LU", xaxt="n", lty=1, col=c(1,4,4), xlab="Wavelet Scale",
ylab="Wavelet Correlation")
axis(side=1, at=2^(0:7))
abline(h=0)
```

3. Program membuat spektrum CWT dan WTC

```

# set working directory for interactive run
dirname(getwd())

#load libraries
library(biwavelet) #mengunduh library
#Get the data

#####
Program untuk Membuat Data-frame variabel yang akan diobservasi
#####

data = read.csv(file = "DDTA.csv") #membaca data yang akan dieksekusi
S<-data[,1] #memasukkan data variabel x ke dalam array S
B<-data[,2] #memasukkan data variabel y ke dalam array B

Energi=data.frame(1:1095,S) #membuat bingkai data dari array S
Temperatur=data.frame(1:1095,B) #membuat bingkai data dari array B

#####
Program untuk Menghasilkan Spektrum CWT
#####
plot(wt(Energi),main="CWT : Konsumsi Energi Tahun 2018-2020 ")
plot(wt(Temperatur),main="CWT : Temperatur Tahun 2018-2020")

#####
Program untuk Menghasilkan Spektrum WTC
#####
title = "Wavelet Coherence: Energi-Temperatur" #judul grafik
wtc.SB <- wtc(Energi, Temperatur, nrand = 10) #perintah membuat WTC
dengan variabel energi dan temperatur
par(oma = c(0, 0, 0, 1), mar = c(5, 4, 4, 5) + 0.1) #memberi ruang disebelah
kanan untuk color bar
plot(wtc.SB, plot.phase = TRUE, lty.coi = 1, col.coi = "grey", lwd.coi = 2,
      lwd.sig = 2, arrow.lwd = 0.03, arrow.len = 0.04, ylab = "Scale", xlab =
"Period",
      plot.cb = TRUE, main = title) #membuat plot wtc dengan fitur arah panah
untuk merepresentasikan fasa, tipe garis COI dengan nilai 1, warna COI abu-
abu, nilai ketebalan garis COI adalah 2, ketebalan garis untuk kontur

```


signifikan adalah 2, ketebalan arah panah 0,03, ukuran arah panah 0,04 (default), notasi sumbu y berupa skala dan sumbu x berupa period.

4. Sampel data penelitian untuk variabel permintaan energi listrik dan variabel meteorologi Kota Makassar. Berikut merupakan hasil olahan data dari PLN UP2D berupa akumulasi total permintaan energi listrik dari 10 gardu induk yang diobservasi.

Tanggal	Permintaan Energi Listrik (MWh)	Temperatur Rata-rata (Celcius)	Kelembaban Rata-Rata (%)	Radiasi Matahari (Jam)	Kecepatan Angin (m/s)
2018-01-01	2337.42	28.0	86.00	8.6	1
2018-01-02	2517.00	28.2	88.00	6.5	2
2018-01-03	2531.28	27.9	87.00	8.3	1
2018-01-04	2465.92	28.3	87.00	1.1	1
2018-01-05	2464.19	28.5	85.00	2.4	1
2018-01-06	2441.01	28.2	86.00	4.8	1
2018-01-07	2188.67	27.3	89.00	6.0	1
2018-01-08	2304.26	27.5	87.00	3.5	2
2018-01-09	2381.51	28.1	86.00	5.8	2
2018-01-10	2338.11	27.0	89.00	4.7	2
2018-01-11	2116.76	25.9	92.00	2.6	2
2018-01-12	2004.83	25.3	91.00	0.1	2
2018-01-13	2039.85	25.5	89.00	0.1	1
2018-01-14	2041.44	25.5	90.00	0.1	1
2018-01-15	2049.07	25.5	92.00	0.5	1
2018-01-16	1951.21	24.7	93.00	0.2	1
2018-01-17	1939.35	25.0	95.00	0.7	1
2018-01-18	1946.00	26.1	90.00	0.1	1
2018-01-19	1950.19	26.6	90.00	0.2	2
2018-01-20	1895.50	26.8	87.00	0.1	6
2018-01-21	1968.85	27.5	85.00	0.5	4
2018-01-22	2119.44	28.0	87.00	5.7	3
2018-01-23	2183.63	28.1	84.00	7.4	2
2018-01-24	2226.87	28.5	83.00	9.5	2
2018-01-25	2258.85	29.0	79.00	7.4	3
2018-01-26	2262.18	28.0	84.00	10.5	3
2018-01-27	2275.65	28.1	85.00	2.3	4
2018-01-28	2253.09	28.3	83.00	7.1	4
2018-01-29	2455.89	30.0	75.00	6.7	4
2018-01-30	2394.66	29.0	81.00	5.8	5
2018-01-31	2341.48	29.4	76.00	6.3	2
2018-02-01	2376.16	27.1	87.00	6.8	2
2018-02-02	2349.69	27.5	85.00	0.1	3
2018-02-03	2173.65	26.3	86.00	6.6	2
2018-02-04	2089.46	26.5	84.00	3.3	1
2018-02-05	2347.09	28.3	83.00	1.8	2
2018-02-06	2166.28	25.8	91.00	8.8	1
2018-02-07	2085.84	25.6	92.00	10.0	2
2018-02-10	2008.63	25.3	92.00	5.7	3
2018-02-11	1884.19	25.4	92.00	0.1	2
2018-02-12	2061.19	26.3	87.00	0.2	1
2018-02-13	2044.80	25.7	91.00	2.8	2
2018-02-14	2020.95	25.9	92.00	2.7	2
2018-02-15	1919.91	24.6	95.00	0.0	2
2018-02-16	1866.94	25.6	92.00	0.0	1
2018-02-17	2058.58	27.4	85.00	0.9	1
2018-02-18	2216.10	28.0	84.00	7.1	2
2018-02-19	2292.31	27.0	85.00	9.8	2
2018-02-20	2355.91	27.7	83.00	1.2	1
2018-02-21	2376.75	28.4	81.00	8.8	2
2018-02-22	2324.42	27.9	76.00	6.5	2
2018-02-23	2362.21	27.7	80.00	9.4	2
2018-02-24	2329.63	27.9	83.00	9.5	2
2018-02-25	2228.12	27.2	85.00	8.0	2
2018-02-26	2238.97	27.1	85.00	6.0	2
2018-02-27	2348.41	27.7	86.00	2.9	1
2018-02-28	2601.07	28.1	82.00	7.5	2
2018-03-01	2209.04	26.1	89.00	6.6	3
2018-03-02	2212.51	27.8	82.00	0.2	1
2018-03-03	2305.79	28.6	80.00	3.5	2
2018-03-04	2397.87	28.7	80.00	8.0	1
2018-03-05	2451.14	27.9	86.00	8.1	2
2018-03-06	2436.53	27.9	83.00	5.3	1
2018-03-07	2350.85	29.1	74.00	3.5	2
2018-03-08	2254.39	26.6	88.00	2.9	2
2018-03-09	2046.61	25.3	91.00	0.1	1
2018-03-10	2173.05	27.6	83.00	0.8	2
2018-03-11	2207.62	27.2	85.00	10.3	2
2018-03-12	2311.29	27.4	84.00	0.5	2
2018-03-13	2582.71	28.6	80.00	3.7	3
2018-03-14	2276.78	25.6	89.00	6.1	2
2018-03-15	2425.70	27.8	86.00	0.1	2
2018-03-16	2444.37	26.7	91.00	8.3	2
2018-03-17	2210.53	25.2	93.00	0.1	2
2018-03-18	2076.66	25.3	92.00	2.0	1
2018-03-19	2374.79	27.6	83.00	4.0	2
2018-03-20	2539.31	33.2	57.00	10.2	2
2018-03-21	2604.14	28.3	84.00	10.2	2
2018-03-22	2338.43	26.1	89.00	9.1	4
2018-03-23	2425.35	27.8	81.00	9.1	2

2018-03-24	2422.47	27.6	83.00	9.0	2	2018-05-05	2336.93	28.4	75.00	9.0	2
2018-03-25	2353.29	27.6	86.00	6.0	3	2018-05-06	2412.18	29.5	78.00	9.8	2
2018-03-26	2385.19	26.5	85.00	4.5	2	2018-05-07	2255.63	29.5	76.00	9.8	2
2018-03-27	2549.01	28.1	85.00	7.6	2	2018-05-08	2454.54	28.7	78.00	8.4	2
2018-03-28	2703.11	27.4	86.00	6.8	2	2018-05-09	2629.10	29.0	77.00	9.0	2
2018-03-29	2438.83	27.7	87.00	6.8	2	2018-05-10	2297.15	29.4	81.00	9.6	2
2018-03-30	2310.14	27.2	86.00	7.2	2	2018-05-11	2355.49	28.5	80.00	9.1	2
2018-03-31	2294.92	26.9	87.00	6.5	2	2018-05-12	2262.95	29.3	81.00	7.5	2
2018-04-01	2367.72	27.7	86.00	5.2	2	2018-05-13	2364.66	29.3	83.00	3.5	2
2018-04-02	2474.96	28.1	84.00	9.8	2	2018-05-14	2183.88	27.0	90.00	6.5	2
2018-04-03	2502.89	27.5	84.00	6.3	2	2018-05-15	2171.34	28.5	83.00	7.5	2
2018-04-04	2398.55	28.4	82.00	7.6	2	2018-05-16	2236.00	29.0	83.00	9.6	2
2018-04-05	2211.02	28.3	82.00	8.7	2	2018-05-17	2275.89	28.4	82.00	9.6	2
2018-04-06	2116.10	28.7	81.00	8.1	2	2018-05-18	2277.27	28.7	82.00	5.3	2
2018-04-07	1964.58	28.2	81.00	9.5	1	2018-05-19	2176.93	28.9	83.00	8.0	2
2018-04-08	2053.97	28.2	76.00	5.2	2	2018-05-20	2221.13	29.1	77.00	8.1	2
2018-04-09	2210.02	28.8	75.00	9.2	2	2018-05-21	2282.57	28.3	80.00	9.3	2
2018-04-10	2209.13	28.6	78.00	9.4	2	2018-05-22	2255.66	29.0	81.00	9.3	2
2018-04-11	2247.14	29.0	83.00	8.8	2	2018-05-23	2306.18	29.3	80.00	9.3	2
2018-04-12	2268.53	29.3	78.00	7.1	2	2018-05-24	2317.18	28.0	88.00	8.3	1
2018-04-13	2338.01	29.3	78.00	8.9	2	2018-05-25	2227.58	27.9	84.00	6.0	1
2018-04-14	2321.74	29.1	79.00	9.4	2	2018-05-26	2124.14	27.5	89.00	2.4	1
2018-04-15	2320.57	29.1	81.00	9.3	2	2018-05-27	2206.87	28.5	85.00	1.3	1
2018-04-16	2524.15	28.6	84.00	5.4	2	2018-05-28	2319.74	29.6	79.00	6.2	2
2018-04-17	2313.09	28.3	88.00	5.0	2	2018-05-29	2216.59	28.9	80.00	6.3	1
2018-04-18	2270.07	27.8	86.00	6.6	2	2018-05-30	2298.89	28.5	80.00	5.0	2
2018-04-19	2189.24	27.8	86.00	6.8	2	2018-05-31	2349.97	29.1	79.00	4.1	2
2018-04-20	2188.42	27.4	84.00	6.8	2	2018-06-01	2283.87	28.1	82.00	6.3	2
2018-04-21	2161.25	27.2	87.00	7.4	2	2018-06-02	2331.88	28.8	80.00	9.3	1
2018-04-22	2135.97	27.6	87.00	4.9	2	2018-06-03	2205.74	28.1	88.00	9.5	1
2018-04-23	2250.04	28.7	75.00	6.6	2	2018-06-04	2248.25	27.9	85.00	1.2	1
2018-04-24	2369.64	29.5	76.00	9.2	3	2018-06-05	2290.00	28.3	81.00	3.9	1
2018-04-25	2377.92	28.6	77.00	8.6	2	2018-06-06	2271.85	28.0	86.00	8.9	1
2018-04-26	2385.53	28.6	77.00	9.5	2	2018-06-07	2320.99	28.6	77.00	8.0	2
2018-04-27	2367.13	28.7	79.00	8.5	2	2018-06-08	2322.64	28.6	74.00	10.3	2
2018-04-28	2304.91	28.5	79.00	9.6	2	2018-06-09	2515.30	28.0	74.00	10.8	1
2018-04-29	2238.42	28.4	72.00	9.2	2	2018-06-10	2206.34	28.0	81.00	10.6	2
2018-04-30	2298.77	28.1	80.00	9.4	2	2018-06-11	2129.04	28.2	81.00	6.8	2
2018-05-01	2266.14	28.8	72.00	9.3	2	2018-06-12	2129.64	28.4	84.00	7.7	2
2018-05-02	2363.66	28.5	77.00	9.4	2	2018-06-13	2032.05	28.3	85.00	8.7	2
2018-05-03	2385.10	28.8	76.00	8.1	2	2018-06-14	1926.00	28.3	82.00	9.2	2
2018-05-04	2369.71	28.6	72.00	9.3	2	2018-06-15	1684.64	28.4	77.00	8.9	1

2018-06-16	1702.83	27.6	79.00	4.7	2	2018-07-28	2318.34	28.8	68.00	10.8	2
2018-06-17	1724.15	27.8	73.00	9.5	2	2018-07-29	2311.14	28.2	75.00	10.6	2
2018-06-18	1843.03	28.0	80.00	10.8	2	2018-07-30	2307.62	27.9	74.00	10.3	2
2018-06-19	1929.05	27.7	86.00	5.9	2	2018-07-31	2272.38	27.1	76.00	4.3	2
2018-06-20	1821.94	25.1	92.00	5.0	2	2018-08-01	2204.82	27.5	70.00	9.8	2
2018-06-21	1978.22	27.6	83.00	7.0	2	2018-08-02	2210.89	27.1	70.00	9.1	3
2018-06-22	1985.16	27.1	86.00	8.1	1	2018-08-03	2225.70	27.8	73.00	9.6	2
2018-06-23	1977.38	27.9	82.00	6.3	1	2018-08-04	2184.27	27.7	72.00	10.5	2
2018-06-24	1997.89	27.7	82.00	7.5	1	2018-08-05	2192.88	28.0	71.00	9.2	3
2018-06-25	2046.92	27.0	86.00	6.8	1	2018-08-06	2269.86	27.8	73.00	9.4	2
2018-06-26	1998.83	27.1	86.00	2.2	1	2018-08-07	2305.13	28.3	70.00	8.7	2
2018-06-27	1873.94	26.2	91.00	1.6	1	2018-08-08	2230.57	28.0	75.00	7.9	2
2018-06-28	1976.46	26.6	87.00	2.0	1	2018-08-09	2425.78	28.7	73.00	8.1	2
2018-06-29	2019.50	27.3	88.00	4.4	2	2018-08-10	2459.10	29.0	70.00	9.3	2
2018-06-30	2034.46	27.0	85.00	2.6	2	2018-08-11	2369.26	28.8	67.00	8.5	2
2018-07-01	2065.21	27.8	77.00	9.5	2	2018-08-12	2442.58	28.1	71.00	9.8	1
2018-07-02	2148.37	27.4	84.00	9.1	1	2018-08-13	2407.07	28.8	75.00	9.8	2
2018-07-03	1924.06	25.2	93.00	3.6	1	2018-08-14	2291.62	28.2	68.00	9.7	2
2018-07-04	2023.14	27.3	82.00	4.2	2	2018-08-15	2288.20	27.4	67.00	9.9	2
2018-07-05	2017.25	26.5	83.00	5.5	2	2018-08-16	2233.23	29.6	52.00	9.8	2
2018-07-06	2053.72	27.2	81.00	3.9	1	2018-08-17	2192.23	27.7	68.00	9.3	2
2018-07-07	2024.67	27.1	82.00	6.3	1	2018-08-18	2251.16	28.1	71.00	9.3	2
2018-07-08	2065.83	27.5	77.00	10.0	2	2018-08-19	2229.99	28.0	72.00	9.2	2
2018-07-09	2170.56	27.4	76.00	10.3	2	2018-08-20	2292.47	28.2	73.00	9.2	2
2018-07-10	2118.66	27.0	74.00	10.5	2	2018-08-21	2236.05	28.0	72.00	9.2	2
2018-07-11	2111.62	26.2	76.00	9.2	2	2018-08-22	2084.27	28.9	71.00	9.2	2
2018-07-12	2180.32	27.4	79.00	5.0	1	2018-08-23	2255.39	28.1	68.00	9.3	2
2018-07-13	2232.28	28.0	78.00	5.6	2	2018-08-24	2326.20	27.8	73.00	9.4	2
2018-07-14	2175.03	27.9	77.00	7.9	2	2018-08-25	2193.90	27.3	74.00	9.1	2
2018-07-15	2080.04	27.6	80.00	9.6	2	2018-08-26	2187.36	27.8	71.00	9.0	2
2018-07-16	2203.61	27.4	80.00	8.8	2	2018-08-27	2256.78	28.0	68.00	9.1	2
2018-07-17	2248.51	27.3	79.00	10.5	2	2018-08-28	2367.31	28.1	68.00	9.1	2
2018-07-18	2288.47	27.9	80.00	10.8	2	2018-08-29	2304.70	29.6	72.00	9.0	2
2018-07-19	2315.28	28.0	81.00	9.7	2	2018-08-30	2275.02	27.6	81.00	6.5	2
2018-07-20	2311.31	28.0	83.00	10.9	2	2018-08-31	2360.54	27.7	78.00	5.6	2
2018-07-21	2125.85	26.4	86.00	6.9	1	2018-09-01	2209.95	28.1	73.00	9.3	2
2018-07-22	2207.03	27.9	80.00	7.0	2	2018-09-02	2249.21	29.2	73.00	9.4	2
2018-07-23	2291.30	28.1	77.00	7.3	2	2018-09-03	2266.98	28.2	74.00	8.3	2
2018-07-24	2263.77	28.4	78.00	10.1	1	2018-09-04	2278.66	28.3	80.00	6.6	2
2018-07-25	2309.21	27.8	73.00	3.6	2	2018-09-05	2238.62	28.2	76.00	4.3	2
2018-07-26	2320.38	28.2	76.00	10.7	2	2018-09-06	2316.76	29.0	73.00	5.4	3
2018-07-27	2397.15	28.7	74.00	10.3	2	2018-09-07	2334.35	28.0	70.00	9.1	2

2018-09-08	2206.88	28.0	70.00	9.7	2	2018-10-20	2165.52	28.7	74.00	9.2	2
2018-09-09	2182.35	27.8	72.00	9.4	2	2018-10-21	2139.33	28.5	75.00	2.5	2
2018-09-10	2200.30	28.1	72.00	10.1	2	2018-10-22	2313.41	30.0	71.00	9.5	2
2018-09-11	2148.63	27.7	74.00	10.8	2	2018-10-23	2298.97	28.9	75.00	9.6	2
2018-09-12	2204.44	27.8	74.00	10.0	2	2018-10-24	2283.29	29.5	74.00	9.5	2
2018-09-13	2142.31	27.5	77.00	7.9	2	2018-10-25	2316.75	29.9	71.00	9.5	2
2018-09-14	2192.28	28.0	74.00	8.9	2	2018-10-26	2353.68	29.7	68.00	10.5	2
2018-09-15	2059.80	27.4	73.00	9.2	2	2018-10-27	2286.79	29.6	70.00	10.3	2
2018-09-16	2095.11	28.1	71.00	9.9	2	2018-10-28	2300.09	29.5	69.00	10.4	2
2018-09-17	2297.77	28.7	75.00	9.3	2	2018-10-29	2353.60	29.6	71.00	9.8	2
2018-09-18	2237.14	28.5	79.00	9.8	1	2018-10-30	2314.60	29.5	76.00	10.5	3
2018-09-19	2239.52	29.5	75.00	0.3	2	2018-10-31	2364.39	30.1	73.00	10.6	2
2018-09-20	2167.90	27.6	76.00	7.8	2	2018-11-01	2378.81	29.3	77.00	9.0	2
2018-09-21	2168.69	27.7	68.00	10.0	2	2018-11-02	2379.30	30.0	74.00	7.9	2
2018-09-22	2069.29	28.1	76.00	10.0	2	2018-11-03	2177.80	29.5	74.00	9.7	2
2018-09-23	2139.52	28.8	71.00	10.2	2	2018-11-04	1972.18	29.1	78.00	8.6	2
2018-09-24	2218.53	28.3	73.00	9.5	2	2018-11-05	2061.55	28.6	82.00	7.1	2
2018-09-25	2224.30	28.4	76.00	10.1	2	2018-11-06	2109.54	29.0	77.00	6.5	2
2018-09-26	2309.83	29.4	71.00	10.1	2	2018-11-07	2077.25	29.5	73.00	6.9	2
2018-09-27	2310.24	29.1	70.00	10.1	2	2018-11-08	1995.47	27.8	86.00	6.5	2
2018-09-28	2307.60	27.7	74.00	10.0	2	2018-11-09	1980.08	27.9	83.00	3.7	2
2018-09-29	2263.80	28.5	76.00	10.3	2	2018-11-10	2033.51	28.9	77.00	6.5	2
2018-09-30	2367.05	28.5	79.00	10.0	2	2018-11-11	2063.29	29.6	78.00	10.7	2
2018-10-01	2339.84	28.5	73.00	10.1	2	2018-11-12	2068.79	29.1	82.00	9.2	2
2018-10-02	2297.25	28.9	70.00	10.3	2	2018-11-13	2051.75	29.1	77.00	7.0	2
2018-10-03	2358.86	29.5	64.00	10.1	2	2018-11-14	2122.98	30.2	74.00	8.7	2
2018-10-04	2341.72	29.4	71.00	10.2	2	2018-11-15	1435.63	30.0	76.00	10.6	2
2018-10-05	2373.93	30.4	74.00	10.0	2	2018-11-16	1290.28	29.3	77.00	8.0	2
2018-10-06	2303.47	30.0	69.00	10.7	2	2018-11-17	2134.27	28.4	82.00	8.1	2
2018-10-07	2234.89	28.6	76.00	10.3	2	2018-11-18	2040.96	28.8	84.00	7.1	3
2018-10-08	2249.29	28.0	79.00	10.3	2	2018-11-19	2040.09	28.7	83.00	7.8	3
2018-10-09	2287.02	28.8	66.00	10.3	2	2018-11-20	1937.19	30.3	80.00	5.5	3
2018-10-10	2249.48	29.2	74.00	10.0	2	2018-11-21	1914.41	26.9	89.00	9.7	2
2018-10-11	2213.62	28.9	73.00	10.1	2	2018-11-22	1837.43	28.3	82.00	2.2	2
2018-10-12	2265.71	29.3	68.00	10.0	2	2018-11-23	1815.83	27.5	83.00	6.2	1
2018-10-13	2097.97	29.2	74.00	10.0	2	2018-11-24	1864.27	27.8	84.00	3.7	2
2018-10-14	2110.82	29.1	72.00	8.9	2	2018-11-25	1762.09	27.3	87.00	6.8	1
2018-10-15	2184.01	28.1	74.00	8.7	2	2018-11-26	1880.43	28.4	83.00	6.0	2
2018-10-16	2196.15	29.1	73.00	8.7	2	2018-11-27	1980.99	29.3	78.00	8.2	2
2018-10-17	2254.55	29.3	74.00	9.2	2	2018-11-28	1921.04	29.6	80.00	9.3	2
2018-10-18	2181.34	27.8	74.00	8.1	2	2018-11-29	1974.14	27.9	86.00	7.7	2
2018-10-19	2240.57	28.9	74.00	9.1	2	2018-11-30	1952.26	28.0	83.00	5.6	2

2018-12-01	1793.38	27.5	87.00	6.7	1
2018-12-02	1811.96	27.7	85.00	6.0	2
2018-12-03	1923.48	28.8	82.00	6.1	2
2018-12-04	2054.69	28.8	79.00	6.5	2
2018-12-05	1951.54	28.6	84.00	7.3	2
2018-12-06	1908.65	28.6	81.00	7.0	2
2018-12-07	1991.50	29.8	81.00	8.0	2
2018-12-08	1983.18	29.5	84.00	8.9	3
2018-12-09	1935.41	28.8	86.00	9.2	3
2018-12-10	2011.38	28.9	84.00	5.3	2
2018-12-11	2038.75	29.5	82.00	8.3	2
2018-12-12	1943.35	27.9	84.00	5.0	2
2018-12-13	1818.63	26.9	88.00	2.7	2
2018-12-14	1968.71	28.6	79.00	1.8	2
2018-12-15	1892.67	28.0	86.00	8.4	3
2018-12-16	1759.46	26.0	91.00	0.1	2
2018-12-17	1797.20	26.8	85.65	0.4	2
2018-12-18	1844.04	27.9	79.00	4.4	2
2018-12-19	1613.70	27.5	90.55	8.0	2
2018-12-20	1784.19	27.8	82.00	0.0	2
2018-12-21	1851.43	29.3	75.99	8.5	4
2018-12-22	1649.86	24.8	94.00	3.5	3
2018-12-23	1602.46	26.2	86.00	2.3	2
2018-12-24	1568.43	26.2	86.00	0.7	2
2018-12-25	1620.67	26.4	86.00	0.4	2
2018-12-26	1657.38	26.5	86.00	0.1	2
2018-12-27	1679.63	26.8	85.17	0.1	3
2018-12-28	1469.97	24.3	93.00	2.9	2
2018-12-29	1435.03	25.4	88.00	0.1	3
2018-12-30	1530.94	26.8	88.00	0.1	2
2018-12-31	1721.96	27.6	85.00	0.1	2
2019-01-01	1629.84	25.9	89.00	8.5	2
2019-01-02	1524.43	24.7	93.00	0.2	2
2019-01-03	1599.05	27.4	82.00	0.1	2
2019-01-04	1668.91	27.4	83.00	0.3	1
2019-01-05	1743.64	26.8	86.00	1.8	2
2019-01-06	1748.58	27.9	78.00	5.1	1
2019-01-07	2015.25	29.0	78.00	7.2	2
2019-01-08	1949.81	28.4	80.00	10.1	2
2019-01-09	1937.55	28.1	79.00	6.0	2
2019-01-10	1952.62	28.9	80.00	0.1	2
2019-01-11	1994.25	28.6	74.00	5.9	2

2019-01-12	1968.58	29.0	74.00	11.0	2
2019-01-13	1951.97	28.7	83.00	8.5	2
2019-01-14	1941.44	27.9	86.00	8.2	4
2019-01-15	1765.44	27.1	86.00	2.6	3
2019-01-16	1654.47	26.5	90.00	0.1	4
2019-01-17	1432.16	25.6	90.00	0.2	2
2019-01-18	1636.13	27.0	85.00	0.2	1
2019-01-19	1789.03	28.3	83.00	5.2	2
2019-01-20	1892.64	27.1	85.50	3.1	3
2019-01-21	1874.93	27.3	88.00	4.8	5
2019-01-22	1850.51	26.8	89.00	6.5	8
2019-01-23	1885.12	27.7	84.00	0.1	3
2019-01-24	1828.55	28.4	85.00	0.1	3
2019-01-25	1877.63	28.5	84.00	2.2	4
2019-01-26	1894.66	28.5	83.00	0.4	2
2019-01-27	1956.97	25.8	82.33	5.9	3
2019-01-28	1919.81	27.4	81.00	6.2	2
2019-01-29	1683.05	25.7	86.00	3.1	2
2019-01-30	1719.80	27.4	84.00	0.1	2
2019-01-31	1793.93	28.0	83.00	6.2	2
2019-02-01	1890.53	27.9	84.00	5.1	2
2019-02-02	1774.07	26.7	89.00	5.7	1
2019-02-03	1792.55	27.8	81.00	1.2	1
2019-02-04	1908.78	27.4	86.00	8.7	4
2019-02-05	1908.23	28.4	84.00	2.4	5
2019-02-06	1840.49	27.8	84.00	4.2	2
2019-02-07	1847.70	27.3	82.00	4.5	1
2019-02-08	1861.75	27.9	83.00	5.9	2
2019-02-09	1604.26	25.3	94.00	6.2	2
2019-02-10	1658.17	26.7	86.00	0.1	2
2019-02-11	1679.37	27.4	85.00	6.4	2
2019-02-12	1720.24	27.9	82.00	6.6	2
2019-02-13	1690.76	27.2	83.00	6.0	1
2019-02-14	1744.39	28.4	80.00	4.6	2
2019-02-15	1882.63	28.6	77.00	3.2	2
2019-02-16	1779.25	27.5	84.00	8.1	2
2019-02-17	1780.52	28.3	79.00	7.5	2
2019-02-18	1888.10	28.5	77.00	6.2	2
2019-02-19	1918.19	28.5	76.00	7.6	2
2019-02-20	1968.58	28.6	72.00	9.5	2
2019-02-21	1931.03	28.8	76.00	6.4	2
2019-02-22	1952.89	27.9	76.00	10.4	2

2019-02-21	1931.03	28.8	76.00	6.4	2	2019-04-04	1923.78	27.1	87.00	3.3	1
2019-02-22	1952.89	27.9	76.00	10.4	2	2019-04-05	1983.66	28.5	78.00	2.7	1
2019-02-23	1864.23	27.7	78.00	5.0	2	2019-04-06	1873.52	27.0	88.00	7.4	1
2019-02-24	1875.49	28.1	81.00	7.4	2	2019-04-07	1930.06	28.0	86.00	2.5	2
2019-02-25	1916.06	27.3	80.33	7.8	2	2019-04-08	2071.08	29.0	78.00	7.2	1
2019-02-26	1923.41	27.4	79.67	7.9	2	2019-04-09	2134.31	29.4	77.00	9.4	1
2019-02-27	1971.04	28.4	79.00	7.5	2	2019-04-10	2181.84	29.7	77.00	8.4	2
2019-02-28	2002.79	28.6	79.00	8.8	2	2019-04-11	2130.59	29.1	74.00	8.2	2
2019-03-01	2033.94	28.8	78.00	8.0	2	2019-04-12	2116.57	28.6	80.00	8.2	2
2019-03-02	1898.89	27.6	83.00	9.1	2	2019-04-13	2044.80	28.5	82.00	0.0	2
2019-03-03	1851.33	27.3	83.00	8.0	2	2019-04-14	2011.38	28.0	84.00	7.3	2
2019-03-04	1939.04	27.9	81.00	7.4	2	2019-04-15	2048.50	28.4	80.00	6.0	1
2019-03-05	1989.84	27.7	83.00	6.1	2	2019-04-16	2023.37	29.2	80.00	6.6	1
2019-03-06	1917.50	27.6	81.00	7.0	2	2019-04-17	1903.58	28.7	77.00	6.9	2
2019-03-07	1663.22	24.6	94.00	3.7	2	2019-04-18	2102.28	29.9	74.00	9.0	2
2019-03-08	1772.49	27.0	86.00	0.1	1	2019-04-19	2045.37	29.1	72.00	9.2	2
2019-03-09	1842.47	28.5	80.00	1.3	1	2019-04-20	2108.85	29.5	76.00	9.2	2
2019-03-10	1903.90	27.8	83.00	6.3	2	2019-04-21	2011.66	28.4	79.00	9.3	1
2019-03-11	1985.37	28.2	81.00	6.8	3	2019-04-22	2123.52	28.8	78.00	6.0	2
2019-03-12	1871.13	27.5	84.00	6.9	2	2019-04-23	2043.22	28.2	84.00	10.0	2
2019-03-13	1831.47	26.8	87.00	2.3	2	2019-04-24	2136.19	29.3	81.00	4.7	1
2019-03-14	1771.96	26.2	88.50	1.0	2	2019-04-25	2144.77	28.6	81.00	5.2	1
2019-03-15	1730.82	25.5	90.00	1.5	3	2019-04-26	2226.80	28.9	81.00	2.3	2
2019-03-16	1663.98	27.0	86.00	0.4	5	2019-04-27	2131.46	29.2	79.00	6.6	1
2019-03-17	1791.67	28.5	82.00	2.0	3	2019-04-28	2025.98	28.4	85.00	3.3	1
2019-03-18	1928.54	28.5	82.50	5.0	3	2019-04-29	1972.26	27.6	79.00	0.1	3
2019-03-19	1972.75	28.4	83.00	6.9	2	2019-04-30	2006.57	28.2	78.00	2.1	1
2019-03-20	1993.95	28.7	79.50	3.2	1	2019-05-01	1973.26	28.9	75.00	8.4	1
2019-03-21	2026.02	29.0	76.00	8.6	2	2019-05-02	1862.75	26.8	85.00	6.0	2
2019-03-22	1974.38	28.9	80.00	7.5	2	2019-05-03	1955.49	28.3	80.00	0.0	1
2019-03-23	2047.93	29.0	82.00	8.7	3	2019-05-04	1922.12	28.5	80.00	4.8	2
2019-03-24	2052.54	29.5	77.00	9.7	2	2019-05-05	1921.31	28.7	78.00	6.7	2
2019-03-25	2101.68	28.7	79.00	8.3	1	2019-05-06	2046.61	29.5	74.00	6.8	2
2019-03-26	2066.53	28.8	78.00	1.6	2	2019-05-07	1829.24	29.2	74.00	8.3	2
2019-03-27	2016.74	28.7	80.00	9.3	1	2019-05-08	2052.96	29.0	79.00	9.9	2
2019-03-28	1854.51	28.1	81.00	3.2	1	2019-05-09	2033.26	28.7	76.00	9.8	2
2019-03-29	1885.34	27.4	82.00	0.1	1	2019-05-10	2058.13	29.6	73.00	9.6	2
2019-03-30	1944.54	28.2	82.00	4.8	1	2019-05-11	2025.24	29.0	75.00	9.7	2
2019-03-31	1929.81	27.4	88.00	9.0	1	2019-05-12	2065.78	29.2	79.00	10.0	2
2019-04-01	1968.23	27.0	86.00	1.0	1	2019-05-13	2149.89	29.5	77.00	7.2	2
2019-04-02	1942.41	27.1	85.00	5.2	1	2019-05-14	2128.50	29.2	78.00	10.7	2
2019-04-03	1844.35	27.9	86.00	3.9	1	2019-05-15	2181.24	29.3	76.00	9.2	2

2019-05-16	2164.56	29.0	77.00	8.2	2
2019-05-17	2145.95	28.7	70.00	10.2	2
2019-05-18	2040.29	28.8	73.00	9.2	2
2019-05-19	2076.56	28.9	72.00	9.8	2
2019-05-20	2165.99	29.5	75.00	10.4	2
2019-05-21	2120.36	29.7	76.00	10.3	2
2019-05-22	2050.54	27.9	85.00	9.4	1
2019-05-23	2003.44	28.0	82.00	1.3	2
2019-05-24	2044.00	28.5	79.00	7.7	2
2019-05-25	2007.05	28.9	76.00	8.0	2
2019-05-26	2048.60	28.6	77.00	11.0	2
2019-05-27	2010.80	29.5	76.00	9.7	2
2019-05-28	1991.36	28.3	79.00	6.6	2
2019-05-29	1999.27	28.6	80.00	7.3	1
2019-05-30	1894.95	28.8	76.00	8.1	1
2019-05-31	1919.86	28.8	72.00	5.0	2
2019-06-01	1841.99	28.5	80.00	8.4	2
2019-06-02	1769.74	28.5	81.00	2.4	1
2019-06-03	1720.15	28.3	80.00	1.3	2
2019-06-04	1624.56	28.1	80.00	2.2	2
2019-06-05	1465.91	28.3	83.00	0.1	2
2019-06-06	1484.55	28.3	80.00	3.2	2
2019-06-07	1573.94	28.3	79.00	8.5	2
2019-06-08	1564.12	26.2	92.00	9.1	1
2019-06-09	1609.60	27.3	88.00	0.6	2
2019-06-10	1785.82	27.9	82.00	6.3	1
2019-06-11	1771.99	28.3	84.00	8.4	1
2019-06-12	1790.12	27.8	83.00	4.5	2
2019-06-13	1799.29	27.8	86.00	1.2	1
2019-06-14	1831.63	28.5	85.00	3.6	1
2019-06-15	1721.36	27.6	69.00	1.5	2
2019-06-16	1796.82	27.5	74.00	9.7	2
2019-06-17	1893.58	27.8	79.00	10.4	2
2019-06-18	1882.88	28.4	66.00	9.0	2
2019-06-19	1841.08	27.9	73.00	6.8	2
2019-06-20	1833.66	27.6	71.00	8.4	2
2019-06-21	1861.12	27.7	73.00	8.1	2
2019-06-22	1849.77	28.3	74.00	5.8	2
2019-06-23	1852.00	28.1	76.00	10.8	2
2019-06-24	1890.65	27.9	76.00	8.0	2
2019-06-25	1839.11	28.1	71.00	10.5	2
2019-06-26	1832.99	27.5	72.00	10.8	2

2019-06-27	1848.35	27.7	74.00	7.2	2
2019-06-28	1792.37	27.2	70.00	10.6	2
2019-06-29	1744.52	26.6	66.00	8.6	2
2019-06-30	1651.67	27.0	65.00	10.5	1
2019-07-01	1762.67	27.4	76.00	3.4	1
2019-07-02	1740.59	27.0	84.00	1.3	1
2019-07-03	1730.11	27.0	85.00	1.5	1
2019-07-04	1807.32	27.4	84.00	5.0	2
2019-07-05	1878.91	27.8	76.00	9.7	2
2019-07-06	1816.90	28.0	72.00	10.7	2
2019-07-07	1682.14	26.2	68.00	10.5	2
2019-07-08	1721.27	26.3	73.00	10.2	2
2019-07-09	1759.14	26.6	79.00	10.2	2
2019-07-10	1830.49	27.6	75.00	9.5	2
2019-07-11	1798.52	27.3	74.00	9.3	2
2019-07-12	1839.60	27.6	78.00	10.5	2
2019-07-13	1790.87	27.8	68.00	9.5	2
2019-07-14	1735.84	27.2	69.00	8.9	2
2019-07-15	1749.47	26.9	69.00	9.0	2
2019-07-16	1748.26	27.4	68.00	8.3	2
2019-07-17	1805.05	27.8	72.00	9.1	2
2019-07-18	1851.60	28.7	72.00	10.0	2
2019-07-19	1909.94	28.9	74.00	8.0	2
2019-07-20	1887.20	28.6	77.00	8.3	2
2019-07-21	1833.62	28.1	70.00	10.0	2
2019-07-22	1753.50	26.2	72.00	10.4	2
2019-07-23	1690.51	26.3	66.00	10.7	2
2019-07-24	1664.24	26.9	68.00	9.9	2
2019-07-25	1704.34	26.5	71.00	10.8	1
2019-07-26	1743.84	26.5	71.00	9.3	2
2019-07-27	1795.54	27.6	76.00	10.7	2
2019-07-28	1721.35	27.0	71.00	9.6	2
2019-07-29	1731.33	27.3	68.00	10.6	2
2019-07-30	1737.56	28.5	54.00	9.8	2
2019-07-31	1726.26	26.6	67.00	9.1	2
2019-08-01	1702.76	26.5	65.00	10.4	2
2019-08-02	1672.26	26.6	68.00	9.4	2
2019-08-03	1611.51	26.4	65.00	10.3	2
2019-08-04	1637.00	26.7	71.00	10.0	2
2019-08-05	1705.60	26.9	69.00	8.7	2
2019-08-06	1699.58	27.2	70.00	9.6	2
2019-08-07	1749.56	27.3	71.00	9.8	2

2019-08-08	1742.68	27.6	68.00	10.2	2	2019-09-19	1776.14	28.4	78.00	9.3	2
2019-08-09	1739.43	27.4	70.00	9.9	1	2019-09-20	1808.65	29.3	79.00	10.1	2
2019-08-10	1655.58	27.6	73.00	8.0	2	2019-09-21	1809.08	29.3	78.00	9.2	2
2019-08-11	1620.90	27.3	75.00	9.1	2	2019-09-22	1882.18	29.7	80.00	9.8	2
2019-08-12	1803.28	27.6	78.00	9.4	2	2019-09-23	1891.94	29.0	82.00	9.2	2
2019-08-13	1811.50	27.9	74.00	9.6	2	2019-09-24	1806.92	28.3	80.00	9.8	2
2019-08-14	1785.37	28.3	60.00	9.7	2	2019-09-25	1832.75	29.2	80.00	10.2	2
2019-08-15	1784.04	27.5	64.00	9.4	2	2019-09-26	1890.29	29.0	84.00	10.3	2
2019-08-16	1794.31	27.9	70.00	9.5	2	2019-09-27	1909.93	28.2	81.00	10.2	2
2019-08-17	1715.94	28.4	69.00	9.4	2	2019-09-28	1957.74	29.3	75.00	7.8	2
2019-08-18	1699.43	28.1	66.00	9.5	2	2019-09-29	1898.33	28.9	65.00	9.1	2
2019-08-19	1831.43	27.3	78.00	9.5	2	2019-09-30	1912.08	28.1	74.00	10.0	2
2019-08-20	1799.43	27.6	76.00	4.7	2	2019-10-01	1954.79	29.9	66.00	10.2	2
2019-08-21	1805.62	28.6	60.00	6.6	3	2019-10-02	1984.94	28.9	75.00	10.1	2
2019-08-22	1779.40	27.1	69.00	9.2	2	2019-10-03	1988.51	28.1	76.00	9.8	2
2019-08-23	1793.44	27.9	67.00	9.3	2	2019-10-04	1972.01	28.7	70.00	10.2	2
2019-08-24	1844.24	28.5	72.00	8.2	2	2019-10-05	1850.57	28.5	69.00	10.2	2
2019-08-25	1886.35	27.9	74.00	9.1	2	2019-10-06	1915.34	29.0	66.00	10.2	2
2019-08-26	1873.42	28.8	62.00	9.2	2	2019-10-07	1968.02	28.9	64.00	8.4	2
2019-08-27	1788.67	27.8	62.00	9.4	2	2019-10-08	1963.65	28.9	70.00	10.2	2
2019-08-28	1767.30	27.4	60.00	3.3	2	2019-10-09	1980.58	29.3	70.00	10.2	2
2019-08-29	1681.57	26.7	61.00	9.3	2	2019-10-10	1989.58	29.0	75.00	9.8	2
2019-08-30	1684.76	27.4	79.00	9.3	2	2019-10-11	1970.52	29.4	72.00	10.2	2
2019-08-31	1690.80	27.8	81.00	9.5	2	2019-10-12	1870.72	28.5	72.00	10.3	2
2019-09-01	1757.42	27.7	82.00	9.2	2	2019-10-13	1926.54	29.1	76.00	10.3	2
2019-09-02	1773.72	27.7	85.00	9.4	2	2019-10-14	1993.07	29.9	73.00	8.9	2
2019-09-03	1781.16	26.3	83.00	9.1	2	2019-10-15	1935.52	29.2	71.50	10.9	2
2019-09-04	1773.20	26.9	82.00	9.8	2	2019-10-16	1934.90	29.2	70.00	10.6	2
2019-09-05	1780.77	27.3	84.00	9.6	2	2019-10-17	2038.47	29.7	76.00	10.4	2
2019-09-06	1799.50	27.6	74.00	9.1	2	2019-10-18	2093.49	29.9	74.00	9.1	2
2019-09-07	1818.63	29.4	76.00	2.6	2	2019-10-19	2027.59	30.2	69.00	10.2	2
2019-09-08	1844.72	27.9	80.00	9.3	2	2019-10-20	1995.46	30.2	70.00	10.4	3
2019-09-09	1811.55	27.5	75.00	9.5	2	2019-10-21	2036.70	30.1	62.00	10.4	2
2019-09-10	1735.36	27.1	72.00	9.7	2	2019-10-22	1969.77	30.1	64.00	10.9	3
2019-09-11	1662.02	26.3	72.00	9.8	2	2019-10-23	1933.93	29.3	64.00	10.2	2
2019-09-12	1673.01	26.8	79.00	9.8	2	2019-10-24	1986.37	29.7	66.00	10.3	2
2019-09-13	1695.36	26.4	72.00	9.9	2	2019-10-25	2066.91	30.4	68.00	9.3	2
2019-09-14	1685.52	27.0	75.00	10.0	2	2019-10-26	2062.87	30.3	70.00	10.3	2
2019-09-15	1721.21	27.7	75.00	9.9	2	2019-10-27	1991.85	28.8	72.00	8.6	2
2019-09-16	1785.32	27.4	84.00	9.8	2	2019-10-28	2064.26	29.5	72.33	7.0	2
2019-09-17	1815.35	27.4	83.00	10.0	2	2019-10-29	2087.03	29.7	72.67	9.6	2
2019-09-18	1753.41	29.0	80.50	9.8	2	2019-10-30	2099.32	29.8	73.00	10.2	2

2019-10-31	2124.74	29.5	72.00	9.1	2	2019-12-12	2232.71	29.5	77.00	8.9	2
2019-11-01	2085.46	28.8	78.00	8.6	2	2019-12-13	2162.89	28.9	79.00	6.1	2
2019-11-02	1969.28	28.7	78.00	6.8	2	2019-12-14	2103.68	28.3	81.00	7.1	2
2019-11-03	1969.67	29.4	73.00	7.6	2	2019-12-15	2009.31	28.3	80.50	0.5	2
2019-11-04	2079.36	29.8	71.00	10.5	2	2019-12-16	1982.75	28.2	80.00	7.3	2
2019-11-05	2045.52	28.5	76.00	9.1	2	2019-12-17	2170.42	28.3	84.00	8.2	2
2019-11-06	1992.15	29.3	74.00	9.3	2	2019-12-18	2102.90	28.8	82.00	6.2	2
2019-11-07	2007.39	29.0	78.00	10.6	2	2019-12-19	2147.58	29.0	80.00	8.9	2
2019-11-08	1919.09	28.8	82.00	8.2	2	2019-12-20	2096.13	28.7	82.00	5.3	1
2019-11-09	1877.89	28.4	76.00	7.8	2	2019-12-21	2095.37	29.2	76.00	7.7	2
2019-11-10	1865.57	29.3	78.00	4.7	2	2019-12-22	2291.85	28.8	80.00	6.3	2
2019-11-11	1962.25	29.3	75.00	7.3	3	2019-12-23	2067.99	28.1	81.00	4.8	1
2019-11-12	1793.61	27.6	84.00	7.5	2	2019-12-24	2017.50	29.7	73.00	1.4	2
2019-11-13	1979.72	30.0	75.00	4.5	2	2019-12-25	1979.80	29.3	78.00	9.4	2
2019-11-14	1990.16	29.1	76.00	10.5	2	2019-12-26	2001.63	28.4	80.00	8.3	2
2019-11-15	2002.28	29.0	74.00	9.4	2	2019-12-27	2026.33	29.3	82.00	9.8	2
2019-11-16	1835.40	29.3	76.00	7.9	2	2019-12-28	2042.70	29.5	83.00	7.5	3
2019-11-17	1972.29	30.1	73.00	10.4	2	2019-12-29	1951.50	27.9	88.00	5.3	2
2019-11-18	2081.59	29.8	73.00	10.4	2	2019-12-30	1983.57	29.1	80.00	1.4	2
2019-11-19	2145.59	29.8	71.00	10.2	2	2019-12-31	1976.17	28.6	80.00	6.8	2
2019-11-20	2117.75	29.3	69.00	10.3	2	2020-01-01	1832.46	28.3	83.00	4.7	3
2019-11-21	2187.54	30.0	69.00	10.6	2	2020-01-02	1754.35	25.7	94.00	3.8	2
2019-11-22	2129.41	30.1	70.00	10.5	2	2020-01-03	1612.36	25.5	90.00	0.1	3
2019-11-23	2087.75	31.5	71.50	10.4	2	2020-01-04	1658.39	27.6	84.00	0.1	4
2019-11-24	2140.96	29.7	73.00	10.3	2	2020-01-05	1626.55	26.8	84.00	1.2	3
2019-11-25	2160.90	29.6	74.00	10.2	2	2020-01-06	1610.67	26.3	90.00	0.9	2
2019-11-26	2092.70	30.0	74.67	10.5	2	2020-01-07	1657.72	27.6	84.00	0.0	2
2019-11-27	2244.45	29.1	75.33	10.0	2	2020-01-08	1824.34	28.9	85.00	0.6	3
2019-11-28	2178.64	29.5	76.00	9.4	2	2020-01-09	1737.42	27.1	91.00	0.3	2
2019-11-29	2223.50	29.7	74.00	8.6	2	2020-01-10	1870.07	27.2	90.50	0.0	2
2019-11-30	2243.31	29.7	75.00	10.3	2	2020-01-11	1865.80	27.2	90.00	9.0	3
2019-12-01	1956.66	29.9	74.00	10.2	2	2020-01-12	1706.63	25.3	94.00	4.0	3
2019-12-02	2066.39	29.9	78.00	10.1	2	2020-01-13	1757.33	27.8	85.00	0.0	2
2019-12-03	2147.35	29.4	79.00	6.1	2	2020-01-14	1917.91	29.2	78.00	7.0	2
2019-12-04	2011.15	28.6	81.00	7.5	1	2020-01-15	1930.89	28.2	81.00	9.5	1
2019-12-05	2046.68	29.5	78.00	1.6	2	2020-01-16	2012.31	28.8	81.00	9.1	2
2019-12-06	2123.07	29.8	79.00	9.1	2	2020-01-17	2098.36	28.9	80.00	8.7	2
2019-12-07	2266.96	30.0	80.00	9.9	2	2020-01-18	2124.54	29.1	79.00	10.6	1
2019-12-08	2159.90	29.6	79.50	5.4	2	2020-01-19	2152.83	29.4	79.00	9.5	1
2019-12-09	2183.78	29.2	79.00	7.3	2	2020-01-20	2177.93	29.2	80.50	10.5	2
2019-12-10	2098.18	28.6	80.00	6.1	2	2020-01-21	2104.77	28.9	82.00	5.2	2
2019-12-11	2108.86	29.1	78.50	4.9	2	2020-01-22	2169.11	29.6	80.00	6.2	2

2020-01-23	2118.56	29.3	82.00	10.3	2
2020-01-24	2123.36	28.9	77.00	9.7	2
2020-01-25	2156.44	29.6	79.00	8.9	2
2020-01-26	2134.74	29.6	79.50	8.9	1
2020-01-27	2217.54	29.6	80.00	1.8	2
2020-01-28	2252.64	29.7	76.00	8.5	2
2020-01-29	2244.44	29.9	78.00	7.7	3
2020-01-30	2280.78	30.1	79.00	10.4	4
2020-01-31	2031.36	27.7	84.00	9.7	2
2020-02-01	1822.72	25.6	91.00	0.1	2
2020-02-02	1999.11	28.5	84.00	0.2	2
2020-02-03	2074.64	28.8	82.00	6.2	2
2020-02-04	2125.61	27.8	86.00	5.8	2
2020-02-05	2086.07	28.3	84.00	4.6	3
2020-02-06	2110.09	29.7	83.00	6.6	4
2020-02-07	1905.38	26.2	94.00	7.8	2
2020-02-08	1832.33	27.5	86.00	0.1	1
2020-02-09	1755.42	25.1	92.00	0.2	2
2020-02-10	1853.61	27.3	88.00	0.1	2
2020-02-11	1873.21	28.0	86.00	0.0	2
2020-02-12	1911.54	27.8	86.00	4.4	1
2020-02-13	2036.93	28.7	83.00	0.1	1
2020-02-14	2136.43	28.8	81.00	7.9	2
2020-02-15	2164.92	29.3	78.00	8.9	2
2020-02-16	2140.86	28.8	82.00	6.9	2
2020-02-17	2041.74	27.4	89.00	6.1	2
2020-02-18	1800.69	25.4	94.00	1.2	2
2020-02-19	1586.08	25.6	94.00	0.1	1
2020-02-20	1590.28	26.2	91.00	0.1	2
2020-02-21	1771.07	28.2	85.00	0.1	2
2020-02-22	1927.94	27.3	84.00	4.6	1
2020-02-23	1878.00	28.1	82.50	0.9	2
2020-02-24	2042.84	28.8	81.00	0.1	3
2020-02-25	2150.50	28.9	83.00	4.6	2
2020-02-26	2106.50	28.8	85.00	7.5	1
2020-02-27	2016.84	28.5	84.50	4.9	2
2020-02-28	1996.41	28.1	84.00	0.5	1
2020-02-29	2037.99	28.0	83.00	1.4	2
2020-03-01	2060.37	28.5	81.00	5.6	2
2020-03-02	2146.71	28.4	83.50	2.3	2
2020-03-03	2191.37	28.3	86.00	7.0	2
2020-03-04	2044.67	27.7	87.00	6.9	2

2020-03-05	1917.46	27.0	88.00	2.3	4
2020-03-06	1771.34	25.4	95.00	1.2	1
2020-03-07	1788.65	26.9	89.00	0.0	2
2020-03-08	1812.96	25.6	92.00	1.1	1
2020-03-09	1977.30	28.0	80.00	1.9	1
2020-03-10	2057.15	28.3	78.00	8.7	2
2020-03-11	2146.05	29.7	77.00	5.1	2
2020-03-12	2186.60	29.4	74.00	8.6	1
2020-03-13	2178.61	29.2	76.00	6.5	2
2020-03-14	1999.53	27.2	84.00	9.0	2
2020-03-15	2035.69	28.4	79.00	2.0	2
2020-03-16	2121.36	29.1	78.00	9.3	2
2020-03-17	2105.78	29.1	77.00	9.2	2
2020-03-18	2074.94	29.1	76.00	9.2	2
2020-03-19	1957.17	28.7	78.00	9.2	2
2020-03-20	1978.23	27.7	83.00	6.8	3
2020-03-21	1901.56	28.5	78.00	6.5	3
2020-03-22	1875.30	28.2	79.00	8.0	1
2020-03-23	1865.75	28.7	77.00	4.1	2
2020-03-24	1773.05	28.9	80.00	5.6	3
2020-03-25	1741.86	28.7	70.00	7.5	2
2020-03-26	1820.74	29.3	76.00	10.1	1
2020-03-27	1765.47	29.3	79.00	8.7	1
2020-03-28	1694.01	29.3	76.00	4.9	2
2020-03-29	1635.49	28.2	81.00	4.2	1
2020-03-30	1680.63	28.3	79.00	2.2	2
2020-03-31	1643.90	28.4	77.00	6.9	2
2020-04-01	1553.61	26.6	87.00	7.7	2
2020-04-02	1636.26	28.7	78.00	0.0	1
2020-04-03	1728.39	29.3	78.00	8.3	2
2020-04-04	1636.77	28.9	81.00	8.7	2
2020-04-05	1639.65	28.8	80.40	5.6	2
2020-04-06	1737.78	28.6	79.80	9.8	2
2020-04-07	1657.54	28.5	79.20	8.4	2
2020-04-08	1506.25	28.3	79.69	7.0	2
2020-04-09	1550.37	28.2	78.00	0.1	2
2020-04-10	1568.08	28.0	79.67	8.6	2
2020-04-11	1577.54	27.9	81.33	9.7	2
2020-04-12	1478.08	27.7	83.00	3.1	1
2020-04-13	1569.75	28.6	81.00	0.4	2
2020-04-14	1647.29	28.9	81.00	2.8	2
2020-04-15	1659.53	29.1	81.00	9.3	2

2020-04-16	1606.89	28.8	81.75	8.6	2
2020-04-17	1657.11	28.6	82.50	8.0	2
2020-04-18	1568.41	28.3	83.25	7.3	2
2020-04-19	1480.15	28.0	84.00	6.6	2
2020-04-20	1561.84	28.3	81.00	6.7	2
2020-04-21	1578.30	28.6	75.00	9.4	2
2020-04-22	1552.84	28.6	76.00	9.3	2
2020-04-23	1548.44	28.5	77.00	9.1	2
2020-04-24	1542.21	28.5	78.00	9.0	2
2020-04-25	1479.71	28.8	79.00	2.3	2
2020-04-26	1518.48	29.1	80.00	5.7	2
2020-04-27	1571.01	29.2	77.50	7.4	2
2020-04-28	1586.44	29.2	75.00	9.1	2
2020-04-29	1516.73	28.8	77.00	9.3	2
2020-04-30	1513.83	28.7	74.00	6.7	2
2020-05-01	1502.89	29.4	75.00	9.5	2
2020-05-02	1536.13	29.3	76.00	3.6	2
2020-05-03	1543.40	29.5	76.00	9.9	2
2020-05-04	1574.83	29.6	78.00	9.4	2
2020-05-05	1587.11	29.3	78.40	8.5	3
2020-05-06	1595.77	29.1	78.80	7.6	3
2020-05-07	1501.08	28.9	79.20	4.6	2
2020-05-08	1545.54	29.0	79.60	1.6	2
2020-05-09	1490.14	28.7	80.00	6.9	2
2020-05-10	1476.15	28.9	78.00	6.5	2
2020-05-11	1509.36	29.4	74.00	9.7	1
2020-05-12	1506.95	28.9	74.25	9.8	2
2020-05-13	1487.15	28.8	74.50	9.9	2
2020-05-14	1555.10	28.8	74.75	8.7	1
2020-05-15	1596.87	30.2	75.00	6.6	2
2020-05-16	1615.78	30.0	76.00	8.5	2
2020-05-17	1576.38	28.7	76.29	8.5	2
2020-05-18	1594.20	28.6	76.57	8.5	2
2020-05-19	1451.82	28.3	76.86	3.4	3
2020-05-20	1495.25	28.5	77.14	0.1	2
2020-05-21	1420.36	28.3	77.43	2.0	2
2020-05-22	1305.83	28.2	77.71	3.9	1
2020-05-23	1399.41	28.5	78.00	0.0	1
2020-05-24	1351.47	28.7	81.00	8.6	1
2020-05-25	1336.41	28.4	84.00	8.5	2
2020-05-26	1495.53	28.8	85.00	8.5	2
2020-05-27	1486.70	28.2	86.00	8.1	1

2020-05-28	1531.21	28.9	76.00	0.8	2
2020-05-29	1527.65	29.3	78.00	8.2	2
2020-05-30	1493.78	29.4	76.00	6.3	2
2020-05-31	1425.81	28.0	83.00	10.1	2
2020-06-01	1332.86	28.0	82.00	4.1	2
2020-06-02	1463.43	29.3	78.00	8.8	2
2020-06-03	1479.90	29.2	70.00	10.2	2
2020-06-04	1426.61	28.6	71.00	9.9	2
2020-06-05	1457.03	28.7	73.00	9.4	2
2020-06-06	1368.16	28.8	75.00	8.3	2
2020-06-07	1358.04	28.8	75.75	1.4	2
2020-06-08	1502.48	28.8	76.00	8.5	2
2020-06-09	1431.24	28.5	76.00	7.3	2
2020-06-10	1414.00	28.2	75.00	9.4	2
2020-06-11	1379.80	28.6	76.00	10.2	1
2020-06-12	1408.72	27.6	81.00	9.8	2
2020-06-13	1229.87	26.6	86.00	5.0	1
2020-06-14	1303.82	29.0	76.00	0.1	1
2020-06-15	1403.37	28.2	78.00	8.4	2
2020-06-16	1404.99	28.4	80.00	4.5	1
2020-06-17	1400.89	28.6	79.00	6.1	2
2020-06-18	1415.19	30.0	65.00	6.4	2
2020-06-19	1385.94	28.6	76.00	4.5	1
2020-06-20	1337.20	28.5	79.00	2.5	1
2020-06-21	1330.89	28.7	78.00	4.2	2
2020-06-22	1363.59	28.5	73.00	9.4	1
2020-06-23	1363.69	28.3	71.00	9.8	2
2020-06-24	1371.71	28.5	70.00	9.7	2
2020-06-25	1370.11	28.4	74.00	10.7	2
2020-06-26	1433.81	28.2	78.00	9.0	2
2020-06-27	1342.08	27.5	76.00	6.9	2
2020-06-28	1452.39	27.5	68.00	6.8	2
2020-06-29	1562.69	27.8	80.00	6.6	1
2020-06-30	1551.38	27.9	82.00	2.7	1
2020-07-01	1561.78	28.0	80.00	6.8	2
2020-07-02	1600.42	28.0	83.00	6.2	2
2020-07-03	1501.47	28.2	76.00	7.8	1
2020-07-04	1437.40	28.0	76.00	3.2	2
2020-07-05	1394.74	28.2	77.00	10.3	2
2020-07-06	1435.96	27.8	82.00	2.5	2
2020-07-07	1446.82	28.2	80.50	4.1	2
2020-07-08	1474.94	28.4	79.00	9.0	2

2020-07-09	1517.51	28.5	81.00	6.3	2
2020-07-10	1514.90	29.0	80.00	5.1	2
2020-07-11	1451.09	28.6	80.00	6.4	2
2020-07-12	1410.73	28.3	78.50	4.1	2
2020-07-13	1473.74	28.0	77.00	7.6	2
2020-07-14	1513.21	28.9	75.00	3.7	2
2020-07-15	1645.65	28.7	76.00	8.5	3
2020-07-16	1712.42	28.4	77.00	8.5	2
2020-07-17	1752.45	28.6	80.00	4.7	1
2020-07-18	1629.86	28.0	85.00	8.6	1
2020-07-19	1627.20	28.1	82.00	4.1	2
2020-07-20	1661.32	28.5	79.67	8.5	2
2020-07-21	1691.20	28.9	77.33	10.1	2
2020-07-22	1725.65	29.3	75.00	10.1	1
2020-07-23	1719.04	28.7	74.00	9.5	2
2020-07-24	1678.42	28.0	74.00	10.2	2
2020-07-25	1607.10	27.5	72.00	10.1	2
2020-07-26	1560.08	27.2	70.00	8.4	2
2020-07-27	1701.08	28.0	73.00	8.2	2
2020-07-28	1663.03	28.1	70.00	8.8	2
2020-07-29	1589.67	27.7	68.00	9.0	2
2020-07-30	1574.64	27.5	68.00	9.8	2
2020-07-31	1454.65	28.1	70.00	7.8	2
2020-08-01	1545.89	27.8	74.00	7.5	2
2020-08-02	1570.95	28.1	73.00	9.5	2
2020-08-03	1734.20	28.3	72.00	9.7	2
2020-08-04	1784.39	29.1	75.00	9.3	2
2020-08-05	1817.89	29.2	76.00	4.3	2
2020-08-06	1781.49	29.1	69.00	7.5	2
2020-08-07	1795.95	27.9	75.00	6.3	2
2020-08-08	1779.16	29.2	74.00	10.4	2
2020-08-09	1786.69	28.9	77.00	8.3	2
2020-08-10	1879.02	28.5	80.00	10.3	1
2020-08-11	1827.85	28.2	83.00	7.0	3
2020-08-12	1868.86	28.7	80.00	6.3	2
2020-08-13	1841.06	29.1	77.00	7.7	2
2020-08-14	1863.99	28.8	72.00	8.9	2
2020-08-15	1786.16	28.5	70.00	10.3	2
2020-08-16	1719.61	28.5	70.00	9.5	2
2020-08-17	1731.96	28.4	72.00	4.2	2
2020-08-18	1771.68	27.9	71.00	9.7	2
2020-08-19	1745.94	27.4	70.00	10.6	2
2020-08-20	1611.29	27.4	66.00	10.6	2
2020-08-21	1683.76	28.2	69.00	10.7	2
2020-08-22	1739.92	28.1	74.00	10.0	2
2020-08-23	1699.34	28.9	65.00	10.4	3
2020-08-24	1769.87	29.2	60.00	10.3	2
2020-08-25	1792.57	29.1	63.00	10.6	2
2020-08-26	1771.81	28.4	65.00	10.5	2
2020-08-27	1771.99	28.7	62.00	10.7	2
2020-08-28	1841.74	28.6	74.00	10.4	2
2020-08-29	1829.24	29.1	75.00	10.5	2
2020-08-30	1751.03	28.7	70.00	10.1	2
2020-08-31	1632.21	29.7	63.00	10.3	3
2020-09-01	2121.44	28.9	78.00	10.3	2
2020-09-02	2111.04	28.8	79.00	1.8	2
2020-09-03	2114.92	28.5	80.00	8.7	2
2020-09-04	2173.32	29.0	75.00	10.1	2
2020-09-05	2054.07	28.5	73.00	8.7	2
2020-09-06	2018.45	28.7	68.00	9.9	2
2020-09-07	2095.51	28.4	71.00	10.2	2
2020-09-08	2178.67	28.3	72.00	8.7	2
2020-09-09	2216.65	29.3	74.00	4.4	2
2020-09-10	2189.37	29.0	69.00	10.1	2
2020-09-11	2223.66	29.1	70.00	10.1	2
2020-09-12	2111.65	29.4	59.00	9.2	2
2020-09-13	2102.69	29.7	64.00	10.1	2
2020-09-14	2188.98	28.7	64.80	8.4	3
2020-09-15	2115.59	28.5	65.60	8.2	2
2020-09-16	2071.13	28.6	66.40	7.9	2
2020-09-17	2086.26	28.8	67.20	7.7	2
2020-09-18	2199.32	29.0	68.00	7.4	3
2020-09-19	2145.30	29.0	68.80	7.2	2
2020-09-20	2280.27	28.9	69.60	6.9	2
2020-09-21	2455.05	28.8	70.40	6.7	2
2020-09-22	2438.63	28.7	71.20	6.4	1
2020-09-23	2520.91	28.6	72.00	6.2	1
2020-09-24	2511.54	29.0	72.80	5.9	3
2020-09-25	2374.45	29.0	73.60	5.7	3
2020-09-26	2283.60	29.4	74.40	5.4	2
2020-09-27	2513.29	28.8	75.20	5.2	2
2020-09-28	2544.18	29.4	76.00	4.9	2
2020-09-29	2488.24	28.8	70.00	10.0	2
2020-09-30	2504.90	28.7	74.00	3.1	2

2020-10-01	1934.10	29.7	74.00	6.7	2
2020-10-02	1929.01	29.9	66.00	10.1	2
2020-10-03	1833.78	28.5	70.00	10.2	2
2020-10-04	1808.58	29.3	66.00	10.3	2
2020-10-05	1914.51	29.3	64.00	7.3	2
2020-10-06	1881.55	29.2	73.00	10.3	2
2020-10-07	1954.99	30.2	70.00	7.7	2
2020-10-08	1946.57	29.9	72.00	6.7	1
2020-10-09	1875.57	27.4	86.00	4.4	3
2020-10-10	1803.73	28.5	83.00	3.9	2
2020-10-11	1801.31	29.2	76.00	7.9	2
2020-10-12	1871.17	29.7	61.00	10.1	2
2020-10-13	1896.11	28.7	69.00	10.3	2
2020-10-14	1947.12	29.6	73.00	10.3	2
2020-10-15	1978.48	30.6	72.00	4.9	3
2020-10-16	1992.72	30.0	70.00	7.2	2
2020-10-17	1877.90	29.5	73.00	8.3	2
2020-10-18	1854.39	28.5	75.00	5.2	2
2020-10-19	1904.17	27.3	82.00	5.5	2
2020-10-20	1622.14	28.7	72.00	7.0	2
2020-10-21	1571.96	29.3	66.00	10.2	2
2020-10-22	1627.71	29.8	67.00	10.3	3
2020-10-23	1626.34	29.7	67.75	8.5	2
2020-10-24	1631.89	29.7	68.50	8.3	2
2020-10-25	1654.83	29.6	69.25	8.1	2
2020-10-26	1686.16	29.5	70.00	9.1	2
2020-10-27	1620.01	28.5	74.00	10.4	2
2020-10-28	1547.36	29.2	73.00	6.9	2
2020-10-29	1615.55	30.1	69.00	9.0	3
2020-10-30	1609.83	29.4	80.00	10.6	2
2020-10-31	1586.15	29.2	74.00	5.3	2
2020-11-01	1576.61	28.7	76.00	8.5	2
2020-11-02	1631.11	29.4	72.00	7.6	2
2020-11-03	1596.12	29.2	76.50	8.3	1
2020-11-04	1614.58	29.0	81.00	5.0	1
2020-11-05	1616.73	28.8	76.00	4.4	2
2020-11-06	1634.57	29.3	77.00	4.1	2
2020-11-07	1602.20	30.2	72.00	6.8	2
2020-11-08	1603.73	29.5	73.00	9.5	2
2020-11-09	1640.19	27.8	79.00	8.5	2
2020-11-10	1650.21	29.9	75.00	6.1	2
2020-11-11	1678.18	30.3	72.00	9.3	2
2020-11-12	1731.10	29.7	75.00	9.9	2
2020-11-13	1753.69	30.2	74.00	10.4	2
2020-11-14	1654.45	29.2	73.00	10.3	2
2020-11-15	1556.75	29.4	74.50	5.3	2
2020-11-16	1636.93	29.5	76.00	3.5	2
2020-11-17	1731.37	30.1	74.00	9.4	2
2020-11-18	1746.04	30.1	74.00	10.5	2
2020-11-19	1684.13	29.4	80.00	8.9	2
2020-11-20	1696.02	28.9	80.00	0.5	2
2020-11-21	1610.49	28.1	84.00	1.1	2
2020-11-22	1558.57	28.4	83.50	6.6	2
2020-11-23	1627.50	28.6	83.00	2.6	2
2020-11-24	1572.97	27.7	85.00	6.0	2
2020-11-25	1543.41	28.3	82.00	6.6	2
2020-11-26	1629.01	27.9	86.00	7.7	2
2020-11-27	1626.87	27.9	82.00	5.3	2
2020-11-28	1560.65	28.4	80.00	2.5	2
2020-11-29	1566.75	29.5	78.00	6.8	2
2020-11-30	1447.60	25.8	86.00	8.6	2
2020-12-01	1350.14	26.3	93.00	0.1	1
2020-12-02	1315.24	26.6	86.00	0.1	2
2020-12-03	1403.81	28.1	85.00	4.2	2
2020-12-04	1279.33	25.9	91.00	3.3	2
2020-12-05	1194.48	25.7	94.00	0.1	2
2020-12-06	1171.20	26.2	88.00	0.1	1
2020-12-07	1318.84	28.0	81.00	0.8	2
2020-12-08	1309.39	28.0	79.00	5.7	2
2020-12-09	1309.19	28.4	80.00	5.2	2
2020-12-10	1470.72	30.2	72.00	3.0	1
2020-12-11	1543.89	29.7	75.00	9.1	2
2020-12-12	1463.13	27.5	82.00	6.9	2
2020-12-13	1337.01	27.3	85.00	0.7	2
2020-12-14	1349.26	27.2	85.00	0.5	2
2020-12-15	1358.47	26.9	89.00	0.1	2
2020-12-16	1463.20	27.4	86.00	3.1	2
2020-12-17	1324.93	25.7	91.00	2.7	3
2020-12-18	1275.69	25.9	91.00	0.1	3
2020-12-19	1107.41	26.1	91.00	0.1	4
2020-12-20	1145.55	26.3	91.00	0.1	2
2020-12-21	1300.35	26.8	90.00	0.2	3
2020-12-22	1270.21	27.0	87.00	2.7	3
2020-12-23	1319.93	27.2	84.00	0.1	2
2020-12-24	1316.54	27.5	86.00	3.2	2
2020-12-25	1384.67	28.4	81.00	5.7	2
2020-12-26	1434.05	28.2	84.00	8.2	2
2020-12-27	1447.42	27.3	86.00	3.7	2
2020-12-28	1400.79	26.4	88.00	9.0	2
2020-12-29	1259.42	25.8	89.00	3.0	2
2020-12-30	1285.44	26.9	84.00	0.1	3
2020-12-31	1202.28	25.2	95.00	4.3	2

5. Dengan menggunakan Persamaan 2.8, maka data aktual tersebut di transformasikan ke nilai return. Nilai return inilah yang digunakan untuk membuat grafik deret-return pada bab 4. Selain itu, nilai return inilah yang digunakan sebagai data yang akan diolah.

11

Hasil Nilai Return				
Permintaan Energi Listrik	Temperatur Rata-rata	Kelembaban Rata-Rata	Radiasi Matahari	Kecepatan Angin
0.074016677	0.007117468	0.0229895	-0.27996	0.693147181
0.00565826	-0.010695289	-0.0114287	0.24445334	-0.693147181
-0.026159377	0.014235116	0.0000000	-2.0209453	0
-0.000702107	0.007042283	-0.0232569	0.78015856	0
-0.009451497	-0.010582109	0.0116960	0.69314718	0
-0.109118145	-0.032435276	0.0342891	0.22314355	0
0.051466977	0.007299302	-0.0227283	-0.5389965	0.693147181
0.03297341	0.021583572	-0.0115608	0.50509495	0
-0.018389776	-0.03993271	0.0342891	-0.2102954	0
-0.099458616	-0.041593897	0.0331522	-0.5920511	0
-0.054323837	-0.023438573	-0.0109291	-3.2580965	0
0.017317155	0.007874056	-0.0222231	0	-0.693147181
0.000778985	0	0.0111733	0	0
0.003727551	0	0.0219789	1.60943791	0
-0.048935954	-0.031875209	0.0108109	-0.9162907	0
-0.006095955	0.012072581	0.0212774	1.25276297	0
0.003423346	0.043059489	-0.0540672	-1.9459101	0
0.002150909	0.018975901	0.0000000	0.69314718	0.693147181
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