project

Ram-G02494015

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```
library(tidyr)
library(forecast)
```

```
## Registered S3 method overwritten by 'quantmod':
##   method            from
##   as.zoo.data.frame zoo
```

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
electricity_df<-read.csv(file="Electricity_Sales_to_Ultimate_Customers_Total_Monthly.csv")
head(electricity_df)
```

```
##    Month Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours
## 1 May-22                                          307105.7
## 2 Apr-22                                          283846.5
## 3 Mar-22                                          303490.0
## 4 Feb-22                                          304272.3
## 5 Jan-22                                          336691.8
## 6 Dec-21                                          306581.2
```

```
electricity_new<-separate(electricity_df, col=Month, into=c('Month', 'Year'), sep='-')
head(electricity_new)
```

```
##   Month Year Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours
## 1   May   22                                          307105.7
## 2   Apr   22                                          283846.5
## 3   Mar   22                                          303490.0
## 4   Feb   22                                          304272.3
## 5   Jan   22                                          336691.8
## 6   Dec   21                                          306581.2
```

```
electricity_new$Year <-as.numeric(electricity_new$Year)
electricity_new<-electricity_new %>%
mutate(electricity_new, YEAR = ifelse(Year %in% 0:9,paste(200, Year, sep=""),
                                      ifelse(Year %in% 10:22,paste(20, Year, sep=""),
                                     ifelse(Year %in% 73:99, paste(19, Year, sep=""),""))))
head(electricity_new)
```

```
##   Month Year Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours YEAR
## 1   May   22                                          307105.7 2022
## 2   Apr   22                                          283846.5 2022
## 3   Mar   22                                          303490.0 2022
## 4   Feb   22                                          304272.3 2022
## 5   Jan   22                                          336691.8 2022
## 6   Dec   21                                          306581.2 2021
```

```
electricity_new<-electricity_new %>%
mutate(electricity_new, MONTH = match(Month, month.abb))

electricity_new<-electricity_new %>%
mutate(electricity_new, MONTH = ifelse(MONTH %in% 0:9,paste(0, MONTH, sep=""),MONTH))

electricity_new <- electricity_new %>%
mutate(electricity_new, DATE = paste("01"))


head(electricity_new)
```

```
##   Month Year Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours YEAR MONTH DATE
## 1   May   22                                          307105.7 2022    05   01
## 2   Apr   22                                          283846.5 2022    04   01
## 3   Mar   22                                          303490.0 2022    03   01
## 4   Feb   22                                          304272.3 2022    02   01
## 5   Jan   22                                          336691.8 2022    01   01
## 6   Dec   21                                          306581.2 2021    12   01
```

```
electricity_new<-electricity_new[
  with(electricity_new, order(electricity_new$YEAR, electricity_new$MONTH)),
]
head(electricity_new)
```

```
##     Month Year Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours YEAR MONTH DATE
## 593   Jan   73                                          144505.2 1973    01   01
## 592   Feb   73                                          139546.1 1973    02   01
## 591   Mar   73                                          137102.3 1973    03   01
## 590   Apr   73                                          131365.9 1973    04   01
## 589   May   73                                          131360.9 1973    05   01
## 588   Jun   73                                          140293.0 1973    06   01
```

```
DATE <- c(paste(electricity_new$YEAR,"-",electricity_new$MONTH,"-",electricity_new$DATE, sep = ""))
CONSUMPTION <- c(electricity_new$Series.ID..TOTAL.ESTCPUS.M.Million.Kilowatthours)
electricity_final <- data.frame(DATE,CONSUMPTION)
head(electricity_final)
```

```
##         DATE CONSUMPTION
## 1 1973-01-01    144505.2
## 2 1973-02-01    139546.1
## 3 1973-03-01    137102.3
## 4 1973-04-01    131365.9
## 5 1973-05-01    131360.9
## 6 1973-06-01    140293.0
```