Exploratory Data Analysis: Project 1

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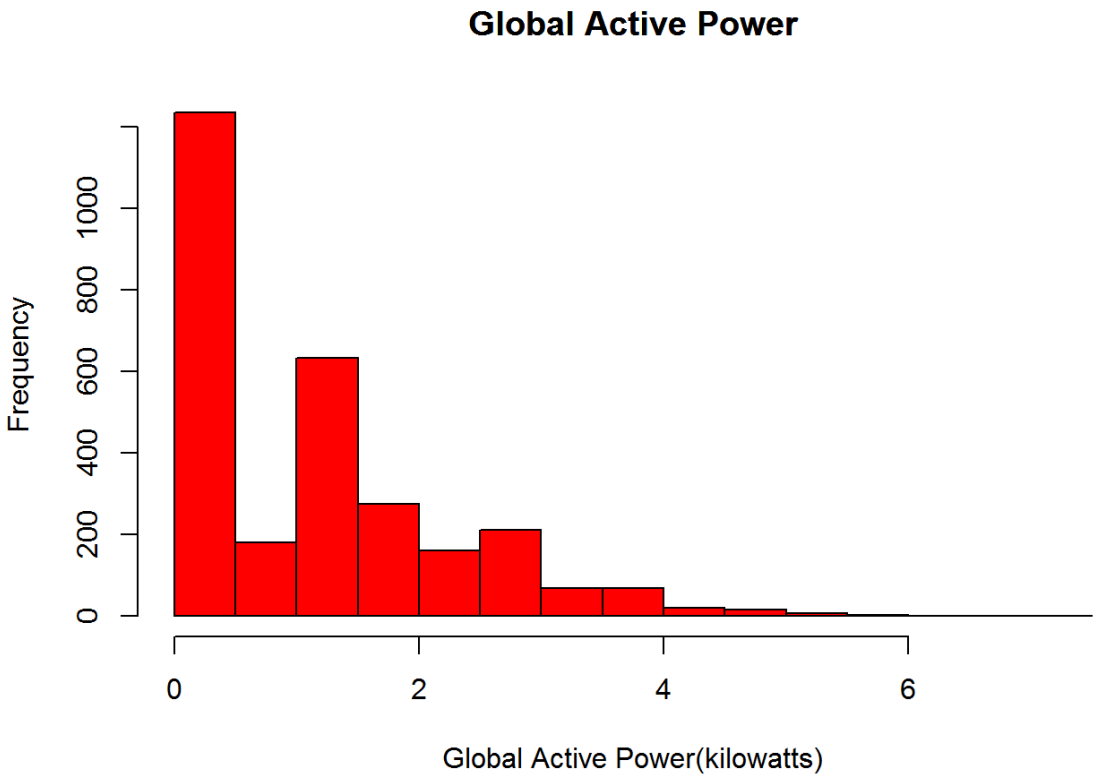
Summary

This assignment contains the R code required for plotting 4 pre-defined plots

Plot 1

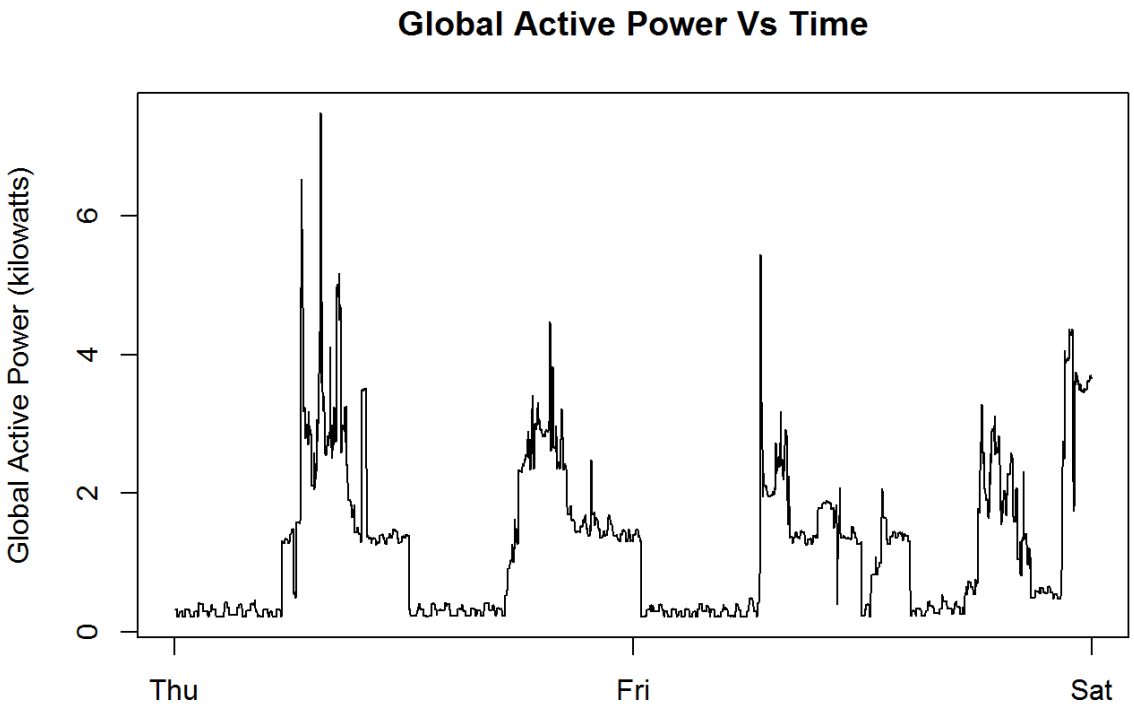
```
#Reading, naming and subsetting power consumption data

power <- read.table("household_power_consumption.txt",skip=1,sep=";")

names(power) <- c("Date","Time","Global_active_power","Global_reactive_powe
r","Voltage","Global_intensity","Sub_metering_1","Sub_metering_2","Sub_mete
ring_3")

subpower <- subset(power,power$Date=="1/2/2007" | power$Date =="2/2/2007")


#calling the basic plot function

hist(as.numeric(as.character(subpower$Global_active_power)),col="red",main=
"Global Active Power",xlab="Global Active Power(kilowatts)")


# annotating graph

title(main="Global Active Power")
```



Plot 2

```
# Reading, naming and subsetting power consumption data

power <- read.table("household_power_consumption.txt",skip=1,sep=";")

names(power) <- c("Date","Time","Global_active_power","Global_reactive_power","Voltage","Global_intensity","Sub_metering_1","Sub_metering_2","Sub_metering_3")

subpower <- subset(power,power$Date=="1/2/2007" | power$Date =="2/2/2007")


# Transforming the Date and Time vars from characters into objects of type Date and POSIXlt respectively

subpower$Date <- as.Date(subpower$Date, format="%d/%m/%Y")

subpower$Time <- strptime(subpower$Time, format="%H:%M:%S")

subpower[1:1440,"Time"] <- format(subpower[1:1440,"Time"],"2007-02-01 %H:%M:%S")

subpower[1441:2880,"Time"] <- format(subpower[1441:2880,"Time"],"2007-02-02 %H:%M:%S")



# calling the basic plot function
```

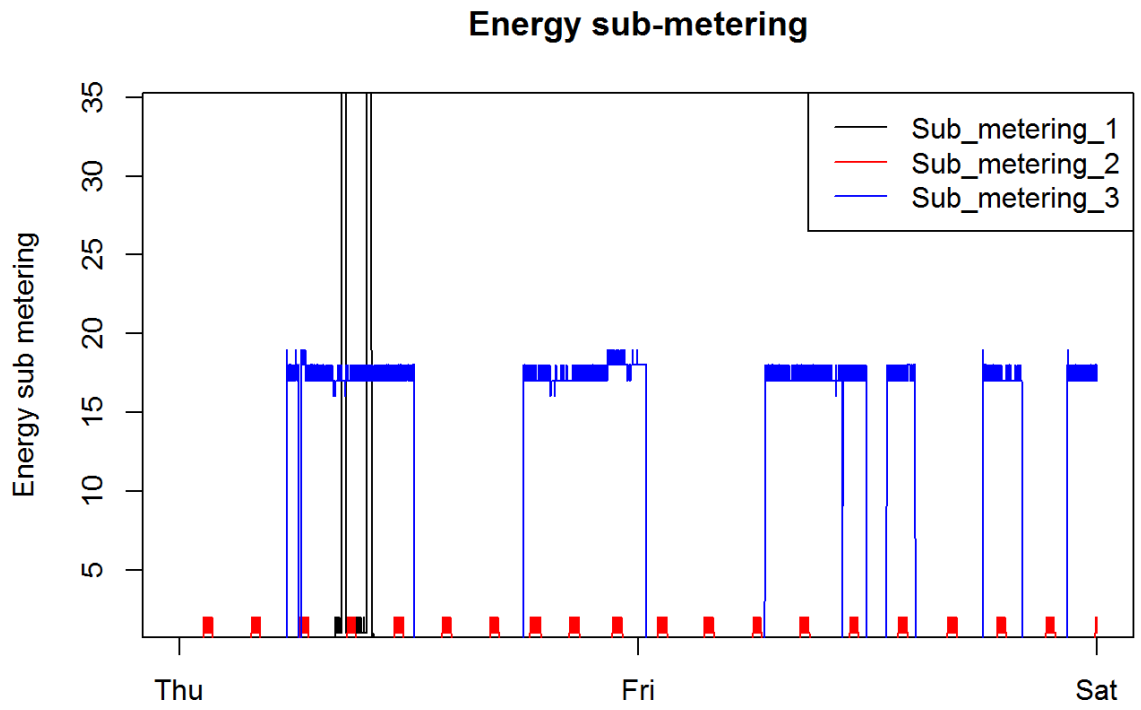
```
plot(subpower$Time,as.numeric(as.character(subpower$Global_active_power)),t
ype="l",xlab="",ylab="Global Active Power (kilowatts)")


# annotating graph

title(main="Global Active Power Vs Time")
```



Plot 3

```
# Reading, naming and subsetting power consumption data

power <- read.table("household_power_consumption.txt",skip=1,sep=";")

names(power) <- c("Date","Time","Global_active_power","Global_reactive_powe
r","Voltage","Global_intensity","Sub_metering_1","Sub_metering_2","Sub_mete
ring_3")

subpower <- subset(power,power$Date=="1/2/2007" | power$Date =="2/2/2007")


# Transforming the Date and Time vars from characters into objects of type
Date and POSIXlt respectively

subpower$Date <- as.Date(subpower$Date, format="%d/%m/%Y")

subpower$Time <- strptime(subpower$Time, format="%H:%M:%S")

subpower[1:1440,"Time"] <- format(subpower[1:1440,"Time"],"2007-02-01 %H:%M
:%S")
```

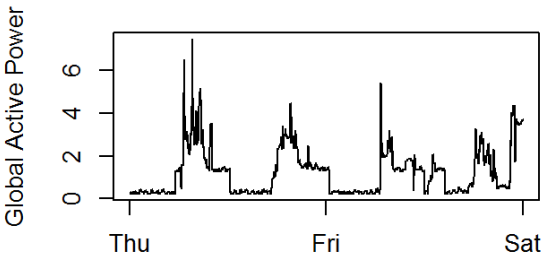
```
subpower[1441:2880,"Time"] <- format(subpower[1441:2880,"Time"],"2007-02-02 %H:%M:%S")



# calling the basic plot functions

plot(subpower$Time,subpower$Sub_metering_1,type="n",xlab="",ylab="Energy sub metering")

with(subpower,lines(Time,as.numeric(as.character(Sub_metering_1))))

with(subpower,lines(Time,as.numeric(as.character(Sub_metering_2)),col="red"))

with(subpower,lines(Time,as.numeric(as.character(Sub_metering_3)),col="blue"))

legend("topright", lty=1, col=c("black","red","blue"),legend=c("Sub_metering_1","Sub_metering_2","Sub_metering_3"))


# annotating graph

title(main="Energy sub-metering")
```

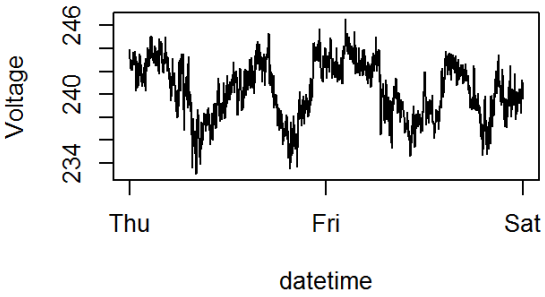


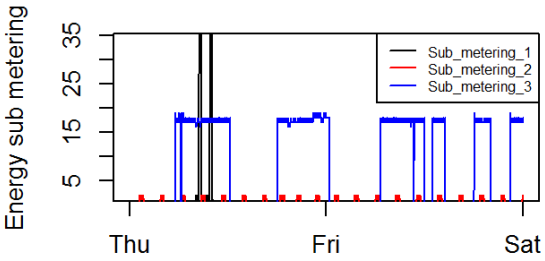
Plot 4

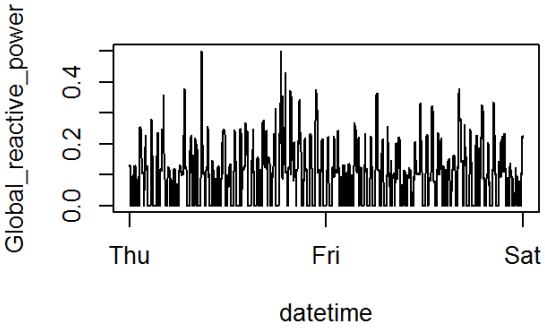
```
# Reading, naming and subsetting power consumption data
```

```
power <- read.table("household_power_consumption.txt",skip=1,sep=";")

names(power) <- c("Date","Time","Global_active_power","Global_reactive_power","Voltage","Global_intensity","Sub_metering_1","Sub_metering_2","Sub_metering_3")

subpower <- subset(power,power$Date=="1/2/2007" | power$Date =="2/2/2007")


# Transforming the Date and Time vars from characters into objects of type Date and POSIXlt respectively

subpower$Date <- as.Date(subpower$Date, format="%d/%m/%Y")

subpower$Time <- strptime(subpower$Time, format="%H:%M:%S")

subpower[1:1440,"Time"] <- format(subpower[1:1440,"Time"],"2007-02-01 %H:%M:%S")

subpower[1441:2880,"Time"] <- format(subpower[1441:2880,"Time"],"2007-02-02 %H:%M:%S")



# initiating a composite plot with many graphs

par(mfrow=c(2,2))


# calling the basic plot function that calls different plot functions to build the 4 plots that form the graph

with(subpower,{

  plot(subpower$Time,as.numeric(as.character(subpower$Global_active_power)),type="l",  xlab="",ylab="Global Active Power")

  plot(subpower$Time,as.numeric(as.character(subpower$Voltage)), type="l",xlab="datetime",ylab="Voltage")

  plot(subpower$Time,subpower$Sub_metering_1,type="n",xlab="",ylab="Energy sub metering")

   with(subpower,lines(Time,as.numeric(as.character(Sub_metering_1))))

   with(subpower,lines(Time,as.numeric(as.character(Sub_metering_2)),col="red"))

   with(subpower,lines(Time,as.numeric(as.character(Sub_metering_3)),col="blue"))

   legend("topright", lty=1, col=c("black","red","blue"),legend=c("Sub_metering_1","Sub_metering_2","Sub_metering_3"), cex = 0.6)

  plot(subpower$Time,as.numeric(as.character(subpower$Global_reactive_power)),type="l",xlab="datetime",ylab="Global_reactive_power")

})
```


Global Active Power
0
2
4
6
Thu
Fri
Sat


Voltage
234
240
246
Thu
Fri
Sat
datetime


Energy sub metering
5
15
25
35
Sub_metering_1
Sub_metering_2
Sub_metering_3
Thu
Fri
Sat


Global_reactive_power
0.0
0.2
0.4
Thu
Fri
Sat
datetime