R1 - Data analyis

Your name

06 September, 2020

library(dplyr)  
library(readr)  
library(lubridate)

## a.

Download data Atlanta [weather](http://www.richardtwatson.com/data/ATLweather.csv) (a timestamp, air temperature, humidity, and precipitation), and [electricity prices](http://www.richardtwatson.com/data/electricityprices.csv) (a timestamp and cost in cents per kWh). Merge the files for electricity, price, and weather.

# R code for a.

## b.

Compute the correlation between temperature and electricity price. What do you conclude?

# R code for b.

### Conclusion

## c.

Extract the data for July through September (Summer) and redo the correlation What do you conclude?

# R code for c.

### Conclusion

## d.

Extract the data for January through March (Winter) and redo the correlation What do you conclude?

# R code for d.

### Conclusion

## e.

Download the Athens data for [solar](http://www.richardtwatson.com/data/SolarRadiationAthens.csv) (a timestamp and solar radiation in watts/m2), Using the Athens solar radiation data, compute the average (one value), min and max for solar radiation.

### Average, min, and max

# R code for e.

## f.

Assuming the total area for capturing solar energy by PV cells for a house is 25m2 (269 square feet)) and solar cells are 20% efficient (i.e., 20% of the photons received are converted into electrons). How much electricity in kWh will be generated in a day?

# R code for f.

### Findings