R1 - Data analyis

Your name

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

a.

Download data Atlanta weather (a timestamp, air temperature, humidity, and precipitation), and electricity prices (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 (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