AEM 6510 Problem Set 3

Fall 2021

Using only `tidyverse` commands and the `lm` command do the following:

1. Load the csv datasets in the `data` folder into dataframes named `storms` and `damages`
2. Put the `damages` data in *tidy* or *long* format where each observation is a storm
3. In `storms` : create a single variable from the year, month, day, hour variables; then convert it into a `date` variable using `lubridate`
4. Keep only observations that are hurricanes
5. Join together the storm and damage datasets, keeping only observations that are in both datasets
6. For each storm: calculate the average wind speed over all observations, and then calculate how much damage was caused per unit of wind speed in a new variable named `damage_per_mph`
7. Sort the data so the storms with the greatest damage per unit of average wind speed are at the top
8. Regress damages on wind speed and store the coefficient on wind speed in a variable called `estimate`