Homework 1
CMSE 381 - Spring 2023
Due Friday, Jan 27, 2023

Instructions
Problems listed below are from [textbook](https://www.statlearning.com/).

   1. 2.4.9: Use the auto data set from class.
   2. 2.4.1
   3. 2.4.2. Explain your reasoning.
   4. 2.4.3 (Note we have only done irreduceable error, not Bayes error since that has to do with classification)
   5. 2.4.4 a,b. Describe one example for each of part a, and b.
   6. 3.7.8. (Note that the commands listed are for R, not python, so you will have to convert the code accordingly. Look over the jupyter notebook from class for examples.)
      3.7.8 (a.iv:) we haven't talked about prediction intervals, just do the confidence interval for horsepower
      - Skip 3.7.8c. This is a command that's easy in R and a pain in python.
   7. 3.7.1
   8. 3.7.3

Important Reminders

1. Homeworks must be typed. Some options for this include word, overleaf/latex, or by including a jupyter notebook (ipynb file so that TA can run it).
2. Including figures when explaining your reasoning is highly encouraged. This can be done as easily as taking a picture of a hand-drawn sketch and including it in your file. Please be sure to include all figures in the main file so we only have to look at one uploaded pdf or document.
3. I strongly encourage collaboration. In the case that you work with others in the class, please include an acknowledgement section in your homework, mentioning people and resources you used in completing the assignment. While utilizing resources such as the internet and the textbook are encouraged, direct copy-paste is not. You should always be able to explain any of your solutions to me after the fact.
4. The late homework policy is:
   - Full credit if submitted on D2L by midnight Friday Jan 27th.
   - 5% penalty if submitted by midnight Thursday.
   - 15% penalty if submitted by midnight Friday.
   - No credit after Friday.
   - At the end of the semester, the two lowest homework scores will be dropped.