

## Exercise 4 – Averages Due February 7, 2024

1. Using the script `Averages.R`, obtain **10** sets of samples of **10** random individuals.
2. For each set, estimate mean height using a *frequentist* approach
3. For each set, estimate mean height using a *Bayesian* approach with *uninformed priors*
4. For each set, estimate mean height using a *Bayesian* approach with *informed priors*
5. Obtain *confidence/credibility intervals* of each estimate
6. Now use the script `Averages.R` to obtain **10** sets of samples of **100** random individuals and repeat steps 2-5
7. Plot all your results in an informative way.
8. Discuss the differences between approaches with small and large sample sizes.



**Note 1:** Remember to use the same data to compare approaches for each set, but to change it between sets (HINT: loops can be of great help here)

**Note 2:** email your document to Michelle ([Michelle.Bardales@ucf.edu](mailto:Michelle.Bardales@ucf.edu)) – attach *also* your R file, so we can review the script