

Due: October 4, 2024

Happy October!

Some notes:

1. Please remember to run all your code and save your ipynb file that way before committing to github.
 - a. Please also make sure that all your results are replicable in jupyter lab - that the code runs properly without needing changes.
2. Please clearly label your file name and upload each lab/homework to it's own folder/file in github - don't upload a lab in another lab's folder. Makes it harder to find.
3. Please remember to print every relevant output - jupyter may output the results anyway but generally IDEs won't, and even in notebooks sometimes the formatting can be better if explicitly printed.
4. Please do your own work - copy/pasting or submitting the same file as someone else will not help you. Copying directly from ChatGPT will also not help you - use it for debugging not your whole assignments.

Questions:

1. We want to check the accuracy of a linear regression model (OLS) with bootstrap. Use the College dataset, with Grad.Rate as the outcome variable, and Accept as the predictor. Use 0 as seed everywhere to make it replicable, points will be deducted if not. 5pt.

Hint for how I structured this: define a bootstrap standard errors function, define a bootstrap OLS function, define a partial of the bootstrap OLS function, use the bootstrap standard errors function with the partial bootstrap OLS function to get the bootstrap estimated SE, and lastly estimate a univariate OLS and use `print(summarize(results))` to see the SE estimated by OLS.

Hint for what output should be:

intercept	0.783696			
Accept	0.000180			
	coef	std err	t	P> t
Intercept	64.5110	0.797	80.915	0.000
Accept	0.0005	0.000	1.878	0.061