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Homework #2

1. In kernel density estimates, we have a trade-off between bias and variance. This is determined by the bandwidth (represented as 'h'.) As you increase the bandwidth, the kernel becomes smoother. This limits the variance as the kernel's value does not suddenly jump but it does increase the bias because now, increase of adjusting to the various values in your set, the smoothness will systemically deviate from your sample. If you choose a low bandwidth, your curve will be more jagged. This means the curve is more responsive to the changes in your sample, but too high of a bandwidth leads to an jittery curve, where the changes become very sudden and dramatic and unlike your underlying data. So, bias changes with 'h,' and the tradeoff between the two is the balance between underfitting (i.e. introducing too much bias) or overfitting (i.e. introducing too much variance) in our kernel density estimate.
2. Ran out of time. I don't know how I'd do this, anyway. Any resources you have that would help me out with these kinds of problems would be greatly appreciated!