Kernel Density Estimators

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We will be exploring the performance of kernel estimators on the distribution shown in figure 1.

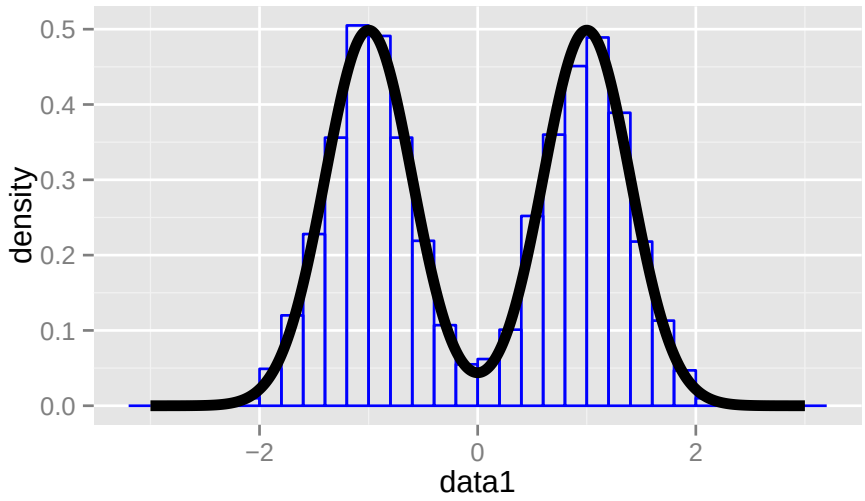

Figure 1: Raw data from a point mixture of normals

For all tasks, include a little text in this document about what you are doing. When you're done, you'll have an R library and knitted pdf document.

TASK 1: Complete the Kernel function and plot it.

2.

TASK 2: Complete the EstimateDensity function and try fitting it to your data with some different bandwidhts.

??.

```
## Error:  Aesthetics must either be length one, or the same length
as the dataProblems:EstimateDensity(x, Kernel, 2)
```

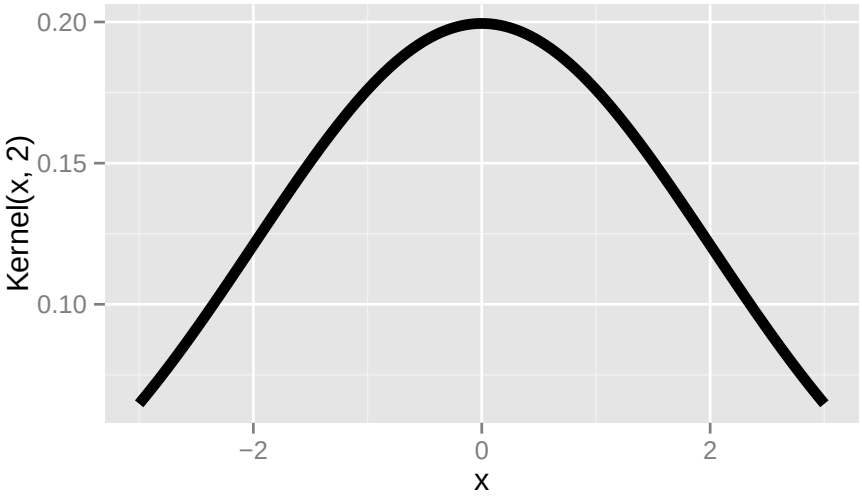

Figure 2: Plotting the Kernel for a bunch of random points

TASK 3: Complete the PerformSimulations function and make plots of the bias and variance.

TASK 4: Explore how the bias and variance changes as a function of the bandwidth.