HW03

Due: Friday, 10/11/2019 — 11:59PM

1. Problem 1 (5 Points)

The U.S Census contains 300 numbers drawn randomly from the probability density function. Pick an estimator of each probability density function on the same figure. Estimate the expectation of each estimator. Which estimator is the best? Which estimator is the worst? Which estimator is biased? Which estimator has well-behaved convergence. Use one or more estimator functions.

To find the data, type: `$ data=300; dbc data; ./data > data.dat`

Plot a histogram of the data:

```
$ echo "set term png; set output 'data.png'; plot 'data.dat' with histograms" | gnuplot
```

Load the data into a vector and compute the sample mean:

```
$ echo "set term dumb; plot 'data.dat' w p" | gnuplot
$ echo "set term dumb; plot 'data.dat' w p" | gnuplot -p
```