

Learning From Data

Exercise 1.9

Proof

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January 13, 2018

Task

Exercise 1.9

If $\mu = 0.9$, use the Hoeffding Inequality to bound the probability that a sample of 10 marbles will have $\nu \leq 0.1$ and compare the answer to the previous exercise.

Solution

$$Pr[\nu \leq 0.1] \leq Pr[|\nu - \mu| > 0.8]$$

```
In [13]: 2*numpy.exp(-2*0.799999*10)+2*numpy.exp(-2*0.899999*10)
```

```
Out[13]: 2.5553541958522822e-07
```