MIT Introduction to Statistics 18.05 Problem Set 2

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Contents

1   References and License

We are answering questions in the material from MIT OpenCourseWare course 18.05, Introduction to Probability and Statistics.
Please see the references section for detailed citation information.
The material for the course is licensed under the terms at `http://ocw.mit.edu/terms`.
We are answering the questions that Orloff and Bloom ask in [3].
We use documentation in [2], [1] to write LaTeXsource code for this document.

2   Higest variance for Bernoulli

In this section we answer the think question, "For what value of p does Bernoulli(p) have the highest variance? Try to answer this by plotting the PMF for various p."
We plot the PMF for values of p: 0.0, 0.1, 0.3, 0.5, and 0.7:
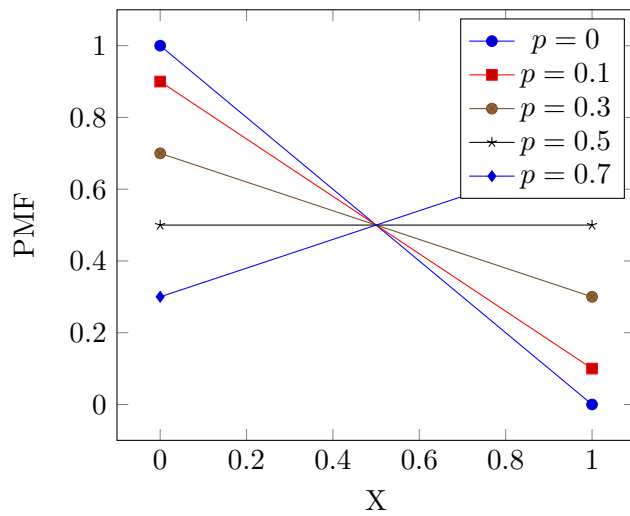
We see that the largest spread in values of the PMF is where p is close to 0 or close to 1.

References

[1] Christian Feuersnger? *PGFPlots Gallery.* Available at `http://pgfplots.sourceforge.net/gallery.html` (2017/03/05).

[2] Stackexchange.com user Joseph Wright. *Best way to generate a nice function plots in LaTeX?* Available at `http://tex.stackexchange.com/questions/3622/best-way-to-generate-a-nice-function-plots-in-latex` (2015/8/31).

[3] Jeremy Orloff and Jonathan Bloom. *Variance of Discrete Random Variables Class 5, 18.05, Spring 2014 Jeremy Orloff and Jonathan Bloom.* Available at `https://ocw.mit.edu/courses/mathematics/18-05-introduction-to-probability-and-statistics-spring-2014/readings/MIT18_05S14_Reading5a.pdf` (Spring 2014).