Define one episode as a single sim of Tommy infecting students in his classroom. I did a Monte Carlo sim of 10,000 episodes using np.random.uniform(0,1) to generate the random numbers.

Answers:

1. Let X1 be the number of students infected by Tommy on day 1. X1 ~ Binomial(n=20, p=0.02)
2. (including Tommy)

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| --- | --- |
| Day  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32 | Mean  1.4139  1.9524  2.6649  3.2122  3.7537  4.2433  4.6492  4.9897  5.2484  5.4496  5.6032  5.7147  5.7954  5.8545  5.8908  5.9164  5.9302  5.9402  5.9472  5.9508  5.9527  5.9542  5.9550  5.9555  5.9560  5.9562  5.9562  5.9564  5.9565  5.9566  5.9567  5.9568 |

