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| ECE 358 S20 |
| M/M/1 and M/M/1/K Queue Simulation |
| Lab 1 |

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# Question 1

My code generated the following experimental results for the mean and variance of 1000 exponential random variables

|  |  |
| --- | --- |
| Mean | Variance |
| 0.0137490037457974 | 0.000184033045328294 |

For an exponential random variable, the mean is . For , this is .

The percentage error between this and the experimental value is

For an exponential random variable, the variance is . For , this is .

The percentage error between this and the experimental value is

The percent errors for these two values is small enough that my exponential random variable generator code won’t negatively impact the remainder of the experiment.

# Question 2

## Packet Generation

## M/M/1

## M/M/1/K

# Question 3