

Announcements:

- On Nov 3, 2019 - Daylight Saving Time Ends On Sunday, November 3, 2019, 2:00:00 am clocks are turned backward 1 hour to Sunday, November 3, 2019, 1:00:00 am local standard time instead.
- Midterm Review is online.
- Midterm Part A is online.

1 Continuous Uniform Distribution

Probability Density Function

Expected Value

Variance

Exercise

A broken phone alarm starts ringing once every day randomly. Let X be the random variable representing the time in the 24 hour system when the alarm goes on.

1. Plot the pdf of X
2. What is $P(X = 12)$
3. What is $P(3 < X < 5)$
4. What is $E[X]$?
5. What is $Var[X]$?

2 Exponential Distribution

Probability Density Function

Expected Value

Variance

Note:

Exercise

Suppose your waiting time (in minutes) for a bus is $X \sim \text{Exp}(0.1)$

1. Plot the pdf of X
2. What is $P(X = 5)$?
3. What is $P(X < 5)$? In other words what is the probability that you would wait less than 5 minutes for the bus?
4. What is $E[X]$?
5. What is $\text{Var}[X]$?