Stat 134: Section 11

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Problem 1

Suppose there are n sets of chopsticks with distinct patterns (so there are $2n$ chopsticks in total). You are having dinner with s friends, so you need $2(s+1)$ chopsticks from your pile of $2n$ chopsticks. Let X be the number of chopsticks chosen together.

a. Find $E(X)$;

b. Find $Var(X)$.

Problem 2

A box contains 17 white out of 50 balls. The rest are black balls.
Draw balls without replacement until you get the 5th white balls.
Let X be the number of balls drawn.

a. Find $E(X)$;

b. Find $Var(X)$.

Think back to the method we used to
find expected number of cards before
the first Ace