Lab Handout — Lab 4.2: The Binomial Distribution

The instructions below are keyed to the lab instructions found on pp. 222-223 of the text. Please use those instructions as well in preparing your report.

Experimental Procedure

Data Generation and Display

By Hand

Using the same N as in lab 4.1, and $p = N/10$, you will generate observations from a $b(5, p)$ distribution model.

2. Use the macro DICE to obtain 10 rolls of 5 dice each. Look at the result of the first roll. Define a success as you did in Lab 4.1. Let Y equal the total number of successes on the 5 dice. Y is a $b(5, p)$ random variable with $p = N/10$.
3. Repeat the previous step for the 9 other rolls. This will give you 10 values of Y.
4. You can sketch a density histogram of the 10 values of Y by hand, or do it in SAS/INSIGHT by mimicking the instructions given in the Lab 4.1 handout. You will need to create 6 bars (for values 0, 1, 2, 3, 4, and 5) instead of just the 2 bars you needed for the histogram in Lab 4.1.

By Computer

Run macro LAB4_2 to obtain results for 10000 binomial trials.

Analysis

Conduct the analysis as indicated on p. 223 of the text.