Coin Flip Simulation

In this activity we will use StatCrunch's "Coin Flipping" simulator.

To access the simulator: StatCrunch > Applets > Simulation > Coin Flipping

- On the first screen, the probability of heads is the claimed population proportion (in decimal form). For example, if it is claimed that 90% of adults are right-handed, use 0.9 for the probability of heads.
- On the first screen, the number of tosses is the sample size *n*.
- In the applet, next to Number of heads you can change the sign (<= or =>), depending on the direction you are interested in.
  Once you determine the sign, enter the actual number of successes in the sample next to that.

Problem

You are told that 30% of college students own an iPhone.

Suppose we take a random sample of 50 students, and find that 20 of them own an iPhone.

Use the simulator to draw a sample of 50 students (# of tosses = 50), 10,000 different times (1000 runs, 10 times), assuming that 30% of students own an iPhone (probability of heads = 0.30).

a) How many times did your simulated sample contain 20 or more iPhone owners?

b) Is "20 or more iPhone owners" an unusual event? (*Recall that an unusual event occurs less than 5% of the time.*)