**Descriptive Statistics vs. Inferential Statistics**

**Descriptive statistics:** Computation that are done on a sample data, including calculation the sample average, median; plotting the sample data; doing sample data summarization.

**Inferential statistics:** drawing conclusions from the sample data about the population, predicting variables. Use the “sample” to infer the “population”.

Example:

For each scenario, decide if it is Descriptive (D) or Inferential (I).

1. A survey of 100 students found that the average number of hours spent studying per week for the 100 students is 12 hours. (Descriptive: because the sentence just refers to the sample, not the population)
2. From a sample of 500 men, a researcher concludes the height of men in the country is statistically significantly greater than 5’9”. Inferential
3. Based on polling 2,000 registered voters, the research plots a bar chart of the number of voters for each candidate. Descriptive
4. In a class of 30 students, the instructor reports that 12 students received an A on the exam.   
   Descriptive
5. Based on polling 2,000 registered voters, a news agency predicts that Candidate A will win the national election. Inferential

You try

1. From a sample of 50 apples and a researcher concludes that the weight of all apples in the orchard is between 120 and150 grams with 90% confidence.
2. The mean score of the entire school’s standardized test is reported to be 78.
3. A pharmaceutical company tests a new drug on 500 patients and concludes that the drug will reduce blood pressure.
4. An education researcher surveys 300 high school students and plots the students’ GPA and their associated number hours of study.
5. A researcher finds that in her dataset of 20 hospitals; the average patient stay was 4.2 days.
6. From a random sample of 1,000 people, a study concludes that smoking increases the risk of lung cancer.
7. A study reports that in the sample of 200 college freshmen surveyed, 40% said they felt stressed during their first semester.