

Statistics 104 - Laboratory 1

1. Data collection is usually the first activity in a statistical study. For each of the following situations identify: the population, the variable of interest, type of variable categorical (qualitative) or numerical (quantitative), and the population parameter of interest.
 - a. The proportion of registered voters in the U.S. who favor a public option for health coverage.
 - b. The median assessed value of residential homes in the state of Iowa.
 - c. The average size of the high school graduating class for students attending Iowa State University.
 - d. The proportion of students in the College of Agriculture who participated in Future Farmers of America (FFA).
 - e. The proportion of Stat 104 students (all sections) who live on campus.
 - f. The average number of college credits earned by students in this section of Stat 104.
2. When collecting sample data we want to avoid bias (under or over representing a portion of the population in the sample). Suppose in problem 1e we decide to use Section A of Stat 104 (which meets TTh 8:00 to 8:50 am and F 8:00 to 9:50 am) as our sample. What is a possible bias in this sample?
3. Calculate the average number of college credits earned by the 4 students in your group. Is this a population parameter or a sample statistic for 1f? Explain briefly.

Data Collection

In the next few labs, we will be using data collected from Fun Size Bags of M&Ms. We wish to discover something about the weight of the full bag, the number of each color in the bag and the weight of the M&Ms without the bag. Each student will be given a Fun Size Bag of plain M&Ms. In an orderly fashion (lab group 1 goes first, then lab group 2, etc.) your group should take your bags to the front of the room and weigh the full bag, open the bag and count the number of each color and weigh the candies without the bag. Enter the data on the data sheet. You are free to eat the M&Ms **after** you have collected the data.

Math Review/Statistics 104 Pretest

Be sure to complete the Math Review/Statistics 104 Pretest before you leave lab today.

Statistics 104 - Laboratory 1

Group Answer Sheet

Names of Group Members: _____, _____

1. Data collection

a. Public option for health coverage

- Population
- Variable
- Type
- Parameter

b. Residential homes

- Population
- Variable
- Type
- Parameter

c. High school graduating class

- Population
- Variable
- Type
- Parameter

d. Future Farmers of America

- Population
- Variable
- Type
- Parameter

e. Students living on campus

- Population
- Variable
- Type
- Parameter

f. College credits earned

- Population
- Variable
- Type
- Parameter

2. What is the possible bias in this sample?

3. Credits earned for your group.
Give individual data values and calculate the mean.

Is this mean value a population parameter or a sample statistic? Explain briefly.