

Tutorial 1

1. Consider the following data on diastolic blood pressure (measured in mm Hg) for 9 patients. Answer questions below and leave your final answers to 2 decimal places. Can use R.

Patient	1	2	3	4	5	6	7	8	9
Blood pressure	96	119	119	108	126	128	110	105	94

- (a) Input the data into R and sort it. Manually find the median of the dataset, then use R to get the median. Are the results the same?.
 - (b) Determine the mean, variance and standard deviation of the dataset.
 - (c) Suppose we are now told that the measurement machine was not zero-ed, and that everyone's reading should be *reduced by 10 mm Hg*. What is the new mean and variance of the dataset? Does the mean change? Does the variance change?
 - (d) Create a histogram of the new data (using probability) and label its x-axis.
2. For each of the following experiments, identify the variable(s), the data type of each variable, and the sample size.
- (a) For each of 10 beetles, a biologist counted the number of times the beetle fed on a disease-resistant plant during a 4-hour period.
 - (b) In a nutritional study, 40 healthy males were measured for height and weight as well as the weight of their food intake over a 24-hour period.
 - (c) The birth weight, number of siblings, mother's race, and age were recorded for each of 85 babies born at NUH.