Statistics

Assignment 1

1. **What exactly is the difference between descriptive and inferential statistics?**
   Ans: Descriptive statistics means transforming data into information by collecting, summarizing and processing. On the other hand, inferential statistics means making a decision or prediction about a population based on data observed in a sample.

2. **I'm not sure what is the difference between a sample and a population?**
   Ans: Population is the entire group of individuals about what we seek information. Whereas, the sample is a part of the population, from which the data is collected. In other words, the sample is a subset of the population that represents the population.

3. **What distinguishes descriptive statistics from other types of statistics?**
   Ans: As mentioned before, description statistics summarizes data and inferential statistics draws a conclusion from a sample taken from a population. The key difference between the two types of statistics can be observed in its tools. The tools of descriptive statistics are usually measures of central tendency (mean, median, mode etc.), measures of dispersion (variance, standard deviation etc.), whereas the tools of inferential statistics are hypothesis test, analysis of variance etc. Another difference between the two types are that description statistics works with the already known data. But inferential statistics makes a decision based on beyond data that is available.
4. **What is the difference between quantitative and qualitative data?**
   Ans: In simpler words, the difference between quantitative and qualitative data can be stated this way: quantitative data can be measured in numbers, whereas qualitative data can not be measured numerically. If we go deeped into the topic, we can also see that quantitative data are usually measured, while qualitative data are mostly observed.
5. **What is the definition of a percentile?**
   Ans: A percentile is a measure used in statistics that indicates the value below which a given percentage of observations in a group of observations fall. For example, if we say 25th percentile, it means the value below which 25% of the observed data are found.