Statistics Assignment 1

1. What exactly is the difference between descriptive and inferential statistics?
   - As name suggest descriptive statistics describe data. There are two methods by which descriptive statistics describe data:
     - Measure dispersion
     - Measure of central tendency
   - Descriptive statistics organize and summarize data.
   - In inferential statistics, we collect data, do some experiments on it and draw conclusions or do hypothesis on population dataset with help of sample data
   - Inferential statistics consists of three parts:
     - Hypothesis Testing
     - Regression Analysis
     - Confidence Interval

2. I'm not sure what is the difference between a sample and a population?
   - Population dataset is large size of dataset. For example, weight of students of school.
   - Usually, population dataset is larger in size.
   - Sample means the subset of population of dataset. It just small part of whole population dataset. For example, weight of 10 students of school.

3. What distinguishes descr   iptive statistics from other types of statistics?
   - Descriptive statistics consists of organizing and summarizing data.
   - It basically tries to find middle part of data to find dispersion or spread of data. Here we don't do any kind of hypothesis.
   - There two methods in descriptive statistics:
     - Measure of central tendency
     - Measure of dispersion.
   - In case of inferential statistics, we do experiments and draw conclusion for population data with help of sample data.

4. What is the difference between quantitative and qualitative data?
   - Quantitative data is any integer. There is no any kind of order or preference in case of quantitative data.

   - There are two types of quantitative data 1. Continuous 2. discrete
   - Example of quantitative data is: weight of students, number of cats, profit and loss
   - Qualitative data means categorical data. It usually has fixed values and

sometime there is order in between qualitative data.
- Two types of qualitative data: 1. Nominal 2. Ordinal
- E.g., Gender, movie ratings, service rating, types of iris flowers.

5. What is the definition of a percentile?
   - Percentile is the value below which certain percentage of observation lies.
   - If there are 100 students in class and Sam get 68 percentile in exam then it means 67 students get less marks than Sam.