1. What are the measures of central tendency, and how do they differ from each other?
   The most common measures of central tendency are mean, median and mode.
   The mean is arithmetic average of all values in dataset. It is calculated by adding up all values and then dividing by number of values.
   The median is the middle value of dataset if arranged in ascending or descending order.
   The mode in a dataset is the value which occurs most frequently.
2. How do you interpret the standard deviation in the context of data variability?
   Standard deviation helps to scale down the unit of variance and make it unique. The variance measures the scatteredness of data around the mean and also the scatteredness of the data among themselves. It helps to measure the dispersion in the dataset

3. What is a box plot, and what information can you extract from it?
   Box plot shows distribution of data and the spread of data points. The line in the middle of the box is the median. The box is between the 75 percentile and 25 percentile. The box shows the spread of middle 50% of data.
   Any data outside the upper and lower bar are the outliers. The box plot is used to find out the median, spread of data points, outliers, Inter quartile range (IQR).

4. Explain the significance of the interquartile range (IQR) and how it is used to detect outliers.

   It is the range between first quartile (25 percentile) and 3rd quartile(75 percentile)).It represents the spread of middle 50% of the data. It is used to find out the outliers. Using IQR, upper bound and lower bound of data is calculated. Its the 1.5 times IQR above and below the box. Data points above the upper band and below the lower band are the outliers.
5. How Do Maximum Likelihood Estimators (MLE) Work?

   Maximum Likelihood Estimators used to determine values for the parameters of a model. The parameters are found such that it maximises the likelihood of finding the data that was already observed ,using the process of model.