**ASSIGNMENT 2**

**1.What is the difference between inferential statistics and descriptive statistics?**

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| DESCRIPTIVE STATISTICS | INFERENTIAL STATISTICS |
| Concerned with the describing the target population. | Make inferences from the sample and generalize them to the situation. |
| Organize ,analyze and present the data in a meaningful manner. | Compares ,test and predicts future outcomes. |
| Final results are shown in form of charts ,tables and graphs. | Final result is the probability scores. |
| Describes the data which is already known. | Tries to make conclusions about the population that is beyond the data available. |
| Tools-Measure of central tendency ,measure of spread. | Tools-Hypothesis tests ,analysis of variance. |

**2.What is the difference between population and sample in inferential statistics?**

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| POPULATION | SAMPLE |
| In inferential statistics, a population enables you to make educated guesses about the numerical characteristics of larger group .The logic of sampling gives you a way to test conclusions about such group using only a small portion of its members .A population is group of phenomena that have something in common. | In inferential statistics ,a sample is the specific group that you will collect data from samples .It means taking a statistics from your sample data and using it to say something about a population parameter. |

**3.Most common characteristics used in descriptive statistics?**

The most common characteristics used in descriptive statistics are,

* + Measure of Central tendency-It includes mean ,median and mode.
  + Measure of Spread-It includes standard deviation ,variance and quartile.

**4.How to calculate range and interquartile range?**

To calculate range:

* To find the range first put all the numbers in orders(ascending or descending).
* Then subtract the lowest number from the highest number.

Example:

20,14,28,24,25,19

Ascending order=14,19,20,24,25,28

=28-14

Range=14

To calculate interquartile range:

* + Order the data from least to greatest.
  + Find the median.
  + Calculate the median of both the lower and upper half of the data.
  + IQR is the difference between upper and lower median.

Example:

45,47,52,52,53,55,56,58,62,80

Median=53+55/2=54

Q1=52,Q3=58

IQR=Q3-Q1=58-52=6

**5.How is the statistical significance of an insight assessed?**

Statistical significance refers to the claim that a result from data generated by testing or experimentation is not likely to occur randomly or chance but is instead likely to be attributable to a specific cause .It can be considered strong or weak.