Statistics Basic-1Assignment Questions

Assignment

Q1. What is Statistics?

Statistics is the study and manipulation of data, including ways to gather, review, analyze, and draw conclusions from data

Q2. Define the different types of statistics and give an example of when each type might be used.

There are two kinds of Statistics, which are **descriptive Statistics and inferential Statistics**. In descriptive Statistics, the Data or Collection Data are described in a summarized way, whereas in inferential Statistics, we make use of it in order to explain the descriptive kind. Both of them are used on a large scale.

Q3.  What are the different types of data and how do they differ from each other? Provide an example of each type of data.

The data is classified into majorly four categories: Nominal data. Ordinal data. Discrete data. Continuous data.

Q4. Categorise the following datasets with respect to quantitative and qualitative data types: (i) Grading in exam: A+, A, B+, B, C+, C, D, E

(ii) Colour of mangoes: yellow, green, orange, red

(iii) Height data of a class: [178.9, 179, 179.5, 176, 177.2, 178.3, 175.8,...]

(iv) Number of mangoes exported by a farm: [500, 600, 478, 672, …]

Q5. Explain the concept of levels of measurement and give an example of a variable for each level.

* [Ratio](https://www.scribbr.com/statistics/ratio-data/): the data can be categorized, ranked, eLevels of measurement, also called scales of measurement, tell you how precisely [variables](https://www.scribbr.com/methodology/independent-and-dependent-variables/) are recorded. In scientific research, a variable is anything that can take on different values across your data set (e.g., height or test scores).

There are 4 levels of measurement:

* [Nominal](https://www.scribbr.com/statistics/nominal-data/): the data can only be categorized
* [Ordinal](https://www.scribbr.com/statistics/ordinal-data/): the data can be categorized and ranked
* [Interval](https://www.scribbr.com/statistics/interval-data/): the data can be categorized, ranked, and evenly spacedvenly spaced, and has a natural zero.

Q6. Why is it important to understand the level of measurement when analyzing data? Provide an example to illustrate your answer.

It is important to understand the level of measurement of variables in research, because **the level of measurement determines the type of statistical analysis that can be conducted, and, therefore, the type of conclusions that can be drawn from the research**.

Q7. How nominal data type is different from ordinal data type.

**Nominal data is classified without a natural order or rank, whereas ordinal data has a predetermined or natural order**. On the other hand, numerical or quantitative data will always be a number that can be measured.

Q8. Which type of plot can be used to display data in terms of range?

**Histogram**. If the groups depicted in a bar chart are actually continuous numeric ranges, we can push the bars together to generate a histogram. Bar lengths in histograms typically correspond to counts of data points, and their patterns demonstrate the distribution of variables in your data.

Q9. Describe the difference between descriptive and inferential statistics. Give an example of each type of statistics and explain how they are used.

Inferential statistics helps to compare data, make hypotheses and predictions. Descriptive statistics explains already known data related to a particular sample or population of a small size. Inferential statistics, however, aims to draw inferences or conclusions about a whole population.

Q10. What are some common measures of central tendency and variability used in statistics? Explain how each measure can be used to describe a dataset.

The central tendency measure is defined as the number used to represent the center or middle of a set of data values. The three commonly used measures of central tendency are the **mean, median, and mode**. A statistic that tells us how the data values are dispersed or spread out is called the measure of dispersion

Note:  Create your assignment in Jupyter notebook and upload it in GitHub & share that github repository link through your dashboard. Make sure the repository is public.

Data Science Masters