1. What is the difference between Data Analysis & Machine Learning?

* 𝐃𝐚𝐭𝐚 𝐀𝐧𝐚𝐥𝐲𝐬𝐢𝐬 is a process of understanding the data, finding patterns, and trying to obtain inferences due to which the underlying patterns are observed.
* 𝐌𝐚𝐜𝐡𝐢𝐧𝐞 𝐋𝐞𝐚𝐫𝐧𝐢𝐧𝐠 is when you train a system to learn millions of patterns and try to predict the upcoming pattern.

1. What is Big Data?

* **Big Data** is used to describe the data which is in the petabyte range or higher. We can describe big data as:
* Variety – It refers to the many types of data that are available. (EG -text, audio & video, etc.)
* Value – It refers to no of data that are available.
* Volume – The amount of data matters like terabytes (EG – Twitter, mobile & web data)
* Veracity – Accuracy & Truth of the data & how much you can rely on it.
* Velocity – speed rate of the data that we receive or acted.

1. What are the **four main things** we should know before studying data analysis?
2. **You have to like working with numbers**

"Doing data analytics makes use of two skills, "One is statistics. So, you have to like and be good at working with numbers. You have to be able to see data like a mystery or puzzle and think.

1. **You have to know how to code, but you don't have to know computer science**

Data analysts need an affinity for working with them programmatically. You should learn to code, for reproducibility. EG -python, R, SAS.

1. **Communication skills**

You may have the technical chops to handle data analytics. Be able to handle what the problem was, your solution, and how you dealt with the roadblocks.

1. **Problem solving skills**

"Mostly, you'll be thinking about a problem or question, and how you can use data potentially to solve or answer that

1. Most common characteristics used in descriptive statistics?

* Measures of Central Tendency
* Measures of Dispersion
* Measures of frequency
* Measure of position

1. what is **quantitative data** and **qualitative data**?

* **Quantitative data** are anything that can be expressed as a number, or quantified. Examples of quantitative data are scores on achievement tests, number of hours of study, or weight of a subject. These data may be represented by ordinal, interval or ratio scales and lend themselves to most statistical manipulation
* **Qualitative** **data** cannot be expressed as a number. Data that represent nominal scales such as gender, social-economic status, religious preference are usually considered to be qualitative data.