

# Assignment 1

## **1)What is the difference between data analysis and machine learning?**

Data Analysis:

Data analysis is the process of cleaning, inspecting, modelling, and transforming data for finding valuable information, informing conclusions, and enhancing the decision-making process.

Data analytics focuses on generating valuable insights from the available data. Companies use data analytics to make better-informed decisions regarding various matters including marketing, production, etc. Data analytics helps you take raw data and extract helpful information from the same.

Data analysis use statistics to figure out what users want. (Find info from data)

Machine learning:

Machine learning refers to the study of algorithms that improve through experience. It is related to artificial intelligence. A machine learning algorithm learns from data automatically and applies the learning without requiring human intervention.

Machine learning has multiple branches and there are various methods to use them. Conventional machine learning solutions use predictive analysis and statistical analysis for finding patterns and catching hidden insights into the available data.

Machine learning use neural nets to figure out what users want (find info from data)

## **2)What is Big Data?**

Big Data is a collection of data that is huge in volume yet growing exponentially with time. It is a data with so large size and complexity that none of traditional data management tools can store it or process it efficiently. Big data is also a data but with huge size.

## **3)What are the four main things we should know before studying data analysis?**

a) Structure and unstructured Data

b) Big Data

c)Statistics

d)Qualitative and Quantitative data

**4)Most common characteristics used in descriptive statistics?**

- a) measures of central tendency
- b) measures of variability
- c) measure of central tendency and variability
- d) measure of shape

**5) 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.