

# What is Data Analysis?

In this lesson, we start with an introduction to data analysis and its importance.

## We'll cover the following ^

- Data analysis
- Why learn data analysis?
- Data analysis tools

## Data analysis #

Data analysis is a method in which data is first collected, and then various operations like normalizing, transforming, cleaning, etc. are applied to that data to extract useful or relevant information. It enables us to make educated decisions instead of just assumptions about data.

## Why learn data analysis? #

Did you know that **90%** of the world's data was created in the last 2 to 3 years? It was predicted that by 2020 we'll have **40 zettabytes** of data, which is close to **400 billion gigabytes**! That's a huge number.

To tackle this exponential increase in data, tech giants such as **Facebook**, **Google**, **Amazon**, and **LinkedIn** have started hiring data scientists to leverage this huge amount of data to their maximum advantage. Data analysis skills are so in demand that companies pay a huge sum of money to hire the best analyst available.

Therefore, data analysis is a crucial skill to learn if you want to get recognized and earn in great potential.

## Data analysis tools #

There are a lot of purchasable data analysis and visualization tools out there such as **Google Analytics**, **IBM Cognos Analytics**, **Tableau**, but for the scope of our course we focus on tools used in Python programming language, which are:

- **Numpy**
- **Pandas**
- **Matplotlib**
- **Seaborn**

These tools are explored in detail with different examples in the coming chapters.

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Let's dive into data analysis techniques and an introduction to **Numpy**.