## **Summary:**

**Sorting:**

* Sorting is a way of arranging data in a specific order.
* It can be done in either ascending or descending order.
* In a spreadsheet, you can sort by one or more columns.
* It is helpful to organize and find specific information in large datasets.

**Filtering:**

* Filtering is a way of displaying only the data that meets certain criteria.
* It allows you to hide rows or columns that do not meet the specified criteria.
* Filter can be applied on one or multiple columns
* It is useful for isolating and analyzing specific subsets of data.

**Pivot Tables:**

* Pivot tables are a powerful tool for data analysis.
* They allow you to summarize large amounts of data and present it in a meaningful way.
* Pivot tables can be used to group data by multiple criteria, and to calculate various summary statistics such as sums, averages, and counts.
* Pivot tables are an efficient way to analyze and extract insights from complex datasets.

Note: It is important to understand that all these functions are used in combination with one another to make sense of large data sets. Sorting and filtering can be used to organize and isolate specific subsets of data, while pivot tables are used to analyze and extract insights from that data. With the help of these functions, Data analysts can gain a better understanding of the data they are working with and can make informed decisions based on the insights they gain.

Studies the following excel functions:

**VLOOKUP:**

* VLOOKUP (Vertical Lookup) is a function in Excel that allows you to search for a specific value in the leftmost column of a table and then retrieve a value from a specified column in the same row.
* Syntax: VLOOKUP(lookup\_value, table\_array, col\_index\_num, [range\_lookup])
* Example: =VLOOKUP(A2,B2:D5,3,FALSE)

**SPLIT:**

* SPLIT is a function in Excel that allows you to divide text within a cell into multiple cells based on a specified delimiter.
* Syntax: SPLIT(text, delimiter)
* Example: =SPLIT(A2," ")

Note: In the above example VLOOKUP will search for the value of A2 in the leftmost column of the table range B2:D5 and return the value of the 3rd column in the same row. SPLIT function in the above example will split the text in A2 by space and return an array of substrings.

As a data analyst, why is it important for the data you present to be readable, accurate, and visually appealing?

* It allows stakeholders to easily understand and trust the information being presented.
* If the data is difficult to read or inaccurate, it can lead to confusion and mistrust.

How can spreadsheet functions help you clean data more efficiently and effectively?

* Automate tasks such as sorting, filtering, and removing duplicates.
* Perform calculations, data validation, data conversions and data transformations, which can help identify and correct errors in the data and make the data more usable and meaningful.

**Plotting:**

In summary, plotting before beginning the analysis allows you to understand the underlying structure of your data, identify patterns and trends, and gain insights that may not be immediately apparent when looking at raw data. It also helps to communicate insights to stakeholders and make the data more accessible to non-technical audiences.

**Data Mapping:**

Data mapping is the process of creating a relationship between different sets of data, typically by linking one set of data to another through a common key or identifier. It is an important step in data analysis because it allows you to combine and analyze data from different sources in order to gain a more complete and accurate understanding of the information.

Some of the key benefits of data mapping include:

* Improved data quality: By linking data from different sources, data mapping can help to identify and correct errors and inconsistencies in the data.
* Increased data insights: By combining data from multiple sources, data mapping can reveal new insights and relationships that may not have been apparent when looking at the data in isolation.
* Greater data accessibility: By linking data from different sources, data mapping can make it easier to access and analyze data that may have previously been siloed or difficult to access.

Data mapping also plays a crucial role in data integration, data warehousing, and data governance. In these applications, data mapping is used to create relationships between data from different systems and applications, which enables the data to be consolidated and analyzed in a consistent and meaningful way.

In summary, data mapping is an important step in data analysis as it allows you to combine and analyze data from different sources in order to gain a more complete and accurate understanding of the information, improve data quality, increase data insights, and make data more accessible.