Tools and Technology

Tools used for Data Analysis: Now, since we have understood what data analysis is and how it can be performed, let's try to understand which tools are available to perform the activity.

- **Business problem understanding,** framing problems in data analytics terms, and validation of business problem assumptions mostly requires analysts to have a discussion with stakeholders and domain experts.

- **Data Acquisition:** Mostly, ETL (Extract transform and load) tools like SSIS, Informatica, Alteryx, Tableau Prep etc., are used. These tools help in fetching data from multiple sources like different databases, flat files in various formats. There might be a huge amount of data present in these sources, but only the required data need to be extracted and merged together.

- **Data Preparation:** This is one of the most important steps in the process to ensure the success of analysis, as rightly there are a plethora of tools available to perform the same. To mention a few important ones are ETL, SAS, Python, R, Spark (for large datasets).

- **Data Analysis:** This is the core of the process and is mostly performed in an ad hoc way which is helpful to do in Python, R, SAS, Excel and using various visualisation tools like Power BI, Tableau, Spotfire etc., by creating various plots and dashboards.

- **Storytelling/Analysis Presentation:** This is the end result of the analysis and needs to be presented in a manner that is easily understood by the stakeholders. Over here, we can use Powerpoint presentations and there are tools like tableau, which aids the storytelling by streamlining the flow of information by arranging various points.

.