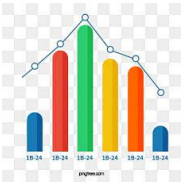
Types of Data Analysis

As we go for Data Analysis, there are four analyses we need to follow to get insights from the given dataset. These four analyses work on the different questions to get insights from the processed data.

Descriptive	Diagnostic	Predictive	Prescriptive
			
Descriptive Analysis tells **What happened**?	Diagnostic Analysis tells **Why did this happen?**	Predictive Analysis tells **What is likely to happen?**	Prescriptive Analysis tells **What do we need to do?**
It is based on the previous data and tells us what has happened in the past.	It explains why particular things are happening.	It is based on historical data and helps make assumptions.	It is based on the current data and helps in future decision making.
It helps in identifying underlying issues.	Learn from the past and analyse the previous decisions.	Forecasts the future outcomes that can happen	Uses some Algorithms to predict future outcomes.
There are two main techniques in Descriptive Analysis: Data Aggregation and Data Mining.	In Diagnostic Analysis, different techniques are used: Probability theory. Regression analysis, filtering, etc.	In Predictive Analysis, we can use regression algorithms such as Logistic Regression.	In Prescriptive Analysis, statistical methods, machine learning algorithms and computational modelling procedures are used.
Example: Identify Sales Trend	Example: Reason for Sales Drop	Example: Expected Sale in next month	Example: Actions to increase the sale