* **Predictive Analytics**

Analytics is the use of data, machine learning, statistical analysis and mathematical or computer-based models to get improved insight and make better decisions. Analytics is defined as “a process of transforming data into actions through analysis and insight in the context of organizational decision making and problem-solving.” Analytics is supported by many tools such as Microsoft Excel, SAS, R, Python (libraries).Types of Data Analytics: Descriptive, Predictive, and Prescriptive.

Predictive analytics is the practice of extracting information from existing data sets.in order to determine patterns and predict future outcomes and trends.  Predictive analytics does not tell you what will happen in the future. It forecasts what might happen in the future with an acceptable level of reliability, and includes what-if scenarios and risk assessment. Predictive models and analysis are typically used to forecast future probabilities. Applied to business, predictive models are used to analyze current data and historical facts in order to better understand customers, products and partners and to identify potential risks and opportunities for a company. It uses a number of techniques, including data mining, statistical modeling and machine learning to help analysts make future business forecasts.

* **Implementing a machine learning model on student marks dataset**

1. Collecting the dataset
2. Data pre-processing(treat the missing values, make it more structural)
3. Scale the data
4. Statistical analysis
5. Select the model
6. Performance analysis to find the best fit

* **Benefits of using the predictive analytics on student data**

1. We can estimate the percentage
2. We can take actions to improvise performance
3. We can predict students who are going get less marks and take precautions
4. Estimation of overall and individual performance