**Data analytics**

**Lab # 1**

* Data is collected into raw form
* Processed according to the requirements
* Utilized for decision making purposes
* Help the businesses to grow and expand their operations in the market
* The question arises, what this processis? - Data Analytics is the answer.
* Data Analyst and data scientist are the ones who perform this process.

**What is analysis?**

* Analysis is an interactive process of tackling a problem
* Finding data required to get answer
* Analysing that data
* Interpreting the result in order to provide recommendation for action

**Steps involved in data analytics**

1. **Business understanding**
   * To understand the business
   * Project planper requirements
   * Define business objectives
2. **Data exploration**
   * Gather initial data
   * Describe,explore data
   * Verify data quality to ensure it contains the data required
3. **Data preparation**
   * Select data asper need
   * Clean it
   * Construct itto get useful information
   * Integratingit
4. **Data Modelling**
   * Selecting amodelling technique
   * Generate testdesign
   * Build a model
   * Assess the model built
5. **Data Evaluation**
   * Results areevaluated
   * Review the scopeof errors
   * Determine nextstep to perform
6. **Deployment**
   * Deployed theresults of analysis

**Types of analysis**

1. **Descriptive analysis**
   * Analyse and describe the features  
     of data
   * Summarization of Information
2. **Predictive Analysis**
   * Determine thefuture outcomes
   * Based on current data or historical data, forecast the Future
3. **Diagnostic Analysis**
   * Think critically about nature of data
   * Find issues in data to reduce losses
   * Optimize the performance
4. **PrescriptiveAnalysis**
   * Combines above three
   * Final frontier of data analytics
   * Heavy usage of AI
   * FB, Netflix, Amazon,google are usingthis kind ofanalysis

**Task**

1. Consider an example of your choice (like the CMS example discussed in the lab, you can take your FYP as an example). How would you apply the steps of data analytics mentioned above? Also mention, which kind of analysis from the above mentioned, can be performed for your example.