**Assignments 1 (Power BI) Solution**

* What do you mean by BI? Explain.?

Bi (Business Intelligence) refers to the procedural and technical infrastructure that collects, stores, and analyzes the data produced by a company’s activities.BI has a direct impact on organization’s strategic, tactical and operational business decisions. BI supports fact-based decision making using historical data rather than assumptions and gut feeling. BI Tools perform data analysis and create reports,summeries,dashbord,maps,graphs and charts to provide users with detailed intelligence about the nature of the business.

* How Power-BI helps in BI, and how does it help Analysts? Explain.

Power BI is a Business Intelligence tool developed and maintained by Microsoft which is capable of handling huge amounts of data in a much faster way. It is an advanced version of Microsoft Excel with advanced analytics options and services.

* power BI can get data from multiple sources from SQL, cloud, on-premises data, or any file type such as .xls, .csv, .tsv etc., A major task of analyst is to integrate data from multiple sources and keep it in one comfortable and handy place to analyze them.
* Another way power BI helps analyst is in publishing Reports/Dashboards to a workspace/stakeholder community that they can interact with reports to see their performance analysis or any other information
* Data visualization becomes easier in just a few clicks, drag and drops. Power BI comes with 180+ visualization techniques which are interactive, formattable to create colorful plots and graphs.
* Power Query editor which heart of Power BI makes a record of changes what the analyst is doing, So that if they identify error and need to make any changes, analyst can revert to any specific step directly and make changes in all subsequent steps automatically.
* Power BI creates a Data model how different data is related to each other
* Data ingestion from various sources, All the data such as reports/Dashboards are very secure

* Explain Descriptive analytics?

Descriptive analysis, also known as descriptive analytics or descriptive statistics, is the process of using statistical techniques to describe or summarize a set of data. As one of the major types of data analysis, descriptive analysis is popular for its ability to generate accessible insights from otherwise uninterpreted data. Unlike other types of data analysis, descriptive analysis does not attempt to make predictions about the future. Instead, it draws insights solely from past data, by manipulating in ways that make it more meaningful.

Descriptive analysis is all about trying to describe or summarize data. Although it doesn’t make predictions about the future, it can still be extremely valuable in business environments. This is chiefly because descriptive analysis makes it easier to consume data, which can make it easier for analysts to act on

* Explain Predictive analytics?

The term predictive analytics refers to the use of statistics and modeling techniques to make predictions about future outcomes and performance. Predictive analytics looks at current and historical data patterns to determine if those patterns are likely to emerge again. This allows businesses and investors to adjust where they use their resources to take advantage of possible future events. Predictive analysis can also be used to improve operational efficiencies and reduce risk.

* Predictive analytics uses statistics and modeling techniques to determine future performance.
* Industries and disciplines, such as insurance and marketing, use predictive techniques to make important decisions.
* Predictive models help make weather forecasts, develop video games, translate voice-to-text messages, customer service decisions, and develop investment portfolios.
* People often confuse predictive analytics with machine learning even though the two are different disciplines.
* Types of predictive models include decision trees, regression, and neural networks.
* Write five real life questions that Power BI can solve?

### 1. HelloFresh centralized digital marketing reporting to increase conversions

**Company:** HelloFresh

**Problem:** Digital marketing reporting was time-intensive, manual, and inefficient.

### 2. REI increased membership rates for co-op retailer

**Company:** REI

**Problem:** Difficulty tracking membership metrics with 90 terabytes of data.

### 3. Coca-Cola Bottling Company maximized operational efficiency

**Company:** Coca-Cola Bottling Company (CCBC), Coca Cola’s largest independent bottling partner

**Problem:** Manual reporting processes restricted access to real-time sales and operations data.

4. Government may need to know **"About what topic are most people talking about?"** during any social evil event occurs that led to burst in protests and revolts to stop the spread of false information or to to mute people voices in specific regions to outside regions.

5.A Dataware warehouse will need to know **"Why security breach occurred in database?, what data is lost?"** to concentrate on data recovery and tightening the security layer of database.