**Power BI Assignment 1**

1. What do you mean by BI? Explain.

BI stands for Business Intelligence, which refers to the processes, technologies, and tools that organizations use to collect, analyze, and present data in a way that helps them make informed business decisions.

BI enables organizations to gain a holistic view of their business operations, identify areas of improvement, and make data-driven decisions. By leveraging BI tools and technologies, businesses can optimize their performance, streamline their processes, and gain a competitive advantage in their industry.

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

Power BI is a powerful business intelligence tool that helps organizations to analyze, visualize, and share data in a way that drives informed business decisions.

Power BI allows Data integration, data visualization, collaboration and Power BI Service for real time data understanding

1. Explain Descriptive analytics?

Descriptive analytics is a type of data analysis that aims to provide insight into what has happened in the past. It involves analyzing historical data to understand trends, patterns, and relationships in the data.

Descriptive analytics focuses on summarizing and presenting data in a way that is easy to understand. This can include measures such as frequency, distribution, central tendency, and variability. Some common techniques used in descriptive analytics include:

* + Data visualization: Descriptive analytics often involves creating charts, graphs, and other visualizations to display data in a way that is easy to understand.
  + Data summarization: This involves reducing the amount of data by summarizing it into meaningful statistics, such as mean, median, mode, or standard deviation.
  + Data profiling: This involves analyzing the characteristics of the data, such as the number of records, missing values, and data types.
  + Pattern recognition: This involves identifying patterns or trends in the data, such as seasonality or trends over time.
  + Data clustering: This involves grouping similar data points together based on their characteristics.

1. Explain Predictive analytics?

Predictive analytics is a type of data analysis that involves using statistical algorithms and machine learning techniques to analyze historical data and make predictions about future events or trends. It uses data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on historical data.

Predictive analytics involves several steps:

* Data collection: Predictive analytics starts with the collection of relevant data, including historical data, external data, and real-time data.
* Data preparation: This involves cleaning, transforming, and normalizing the data to prepare it for analysis.
* Model development: This involves developing statistical models and machine learning algorithms to analyze the data and identify patterns and relationships.
* Model validation: This involves testing and validating the accuracy and effectiveness of the models.
* Deployment: The final step involves deploying the models and integrating them into operational systems to make predictions in real-time.

1. Explain prescriptive analytics?

Prescriptive analytics involves analyzing data to identify patterns and relationships, and then using this information to generate recommendations for actions that will improve business outcomes. Unlike predictive analytics, which focuses on predicting what will happen in the future, prescriptive analytics focuses on providing a recommended course of action to achieve a desired outcome.

Prescriptive analytics combines historical data, real-time data, and predictive modeling to provide recommendations based on specific business objectives. It involves several steps, including data collection, data preparation, model development, and deployment.

1. Write five real-life questions that PowerBi can solve.

* What is the trend in sales revenue for our company over the past year, and which products or regions are driving growth or decline?
* How can we reduce our inventory costs while maintaining sufficient stock levels to meet customer demand?
* Which marketing channels are generating the most leads and conversions for our business, and how can we optimize our marketing spend?
* What are the key drivers of customer churn, and how can we reduce churn rates and increase customer retention?
* How can we identify and prevent fraudulent transactions or activities in our financial transactions?