**Power BI Assignment 1**

1. What do you mean by BI? Explain.

**Business Intelligence (BI)** refers to the technologies, applications, practices, and tools used to collect, integrate, analyze, and present business information. The goal of BI is to support better decision-making through insights derived from data. BI tools help organizations monitor key performance indicators (KPIs), identify trends, and generate reports for informed decision-making.

**Key components of BI**:

* Data collection and preparation
* Data analysis and reporting
* Data visualization for actionable insights

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

**Power BI** is a powerful Business Intelligence tool developed by Microsoft. It helps analysts in various ways:

* **Data Integration**: Power BI allows users to connect to various data sources like databases, Excel, cloud platforms, and more. Analysts can easily integrate data from different systems into one cohesive view.
* **Data Transformation**: Power BI provides tools to clean, shape, and transform raw data into a usable format using Power Query.
* **Visualization**: Analysts can create interactive dashboards and reports using visual tools like bar charts, line graphs, pie charts, etc. These visuals make it easier to spot trends and outliers.
* **Automation**: It supports automation through scheduled refreshes of data and real-time analytics, allowing businesses to stay up to date with the latest information.
* **Collaboration**: Power BI allows for seamless sharing of reports and dashboards, making collaboration easy among team members and stakeholders.

1. Explain Descriptive analytics?

**Descriptive Analytics** focuses on summarizing historical data to understand what has happened in the past. It answers questions like "What happened?" and helps businesses analyze trends, patterns, and anomalies in their data.

**Examples**:

* Sales reports summarizing the total sales by month.
* Website traffic analysis over a period of time.
* Year-over-year comparisons of company revenue.

1. Explain Predictive analytics?

**Predictive Analytics** uses statistical techniques, machine learning, and data models to predict future outcomes based on historical data. It answers questions like "What will happen?" and helps businesses anticipate trends and potential risks.

**Examples**:

* Predicting customer churn by analyzing behavioral data.
* Forecasting sales based on historical sales data and seasonality.
* Predicting stock market movements using past market data and economic indicators.

1. Explain perspective analytics?

**Prescriptive Analytics** provides recommendations for decision-making by suggesting various courses of action and their potential outcomes. It answers the question "What should we do?" and helps businesses decide the best course of action based on predicted future scenarios.

**Examples**:

* Recommending the best marketing strategy for maximizing campaign ROI.
* Optimizing supply chain routes to minimize costs and delivery time.
* Providing actionable suggestions for reducing customer churn based on predictive insights

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

 **Which products are driving the most revenue?**

 **How has customer behavior changed over time?**

 **Which departments are hitting their KPIs, and which are lagging?**

 **What are the seasonal trends in sales?**

 **What is the forecast for the upcoming quarter’s sales?**