Power BI Assignment 1

1. What do you mean by BI? Explain.

BI stands for Business Intelligence. It refers to technologies, tools, and practices used to analyze and extract insights from business data to inform decision making and drive strategic business direction. It includes data warehousing, reporting, online analytical processing, and analytics..

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

Power BI is a business analytics service provided by Microsoft that provides interactive visualizations and business intelligence capabilities with an interface easy to use for end users to create their own reports and dashboards.

It helps analysts by providing:

>Data visualization: Provides interactive charts, graphs, and other visualizations to help analysts quickly understand trends and patterns in data.

>Data exploration: Enables analysts to drill down into data to find specific insights and relationships.

>Data connectivity: Connects to various data sources, making it easy for analysts to access and combine data from multiple sources.

>Collaboration: Allows analysts to share and collaborate on reports and dashboards, improving team communication and decision-making.

Overall, Power BI helps analysts turn data into actionable insights, enabling them to make informed decisions and drive business success.

3.Explain Descriptive analytics?

Descriptive analytics is a type of business intelligence that involves summarizing and describing data to understand what has happened in the past. It is used to answer questions such as "What were our sales last quarter?" or "What was the most popular product last year?"

The goal of descriptive analytics is to provide a clear understanding of historical data, allowing organizations to identify trends, patterns, and relationships in the data. Descriptive analytics is typically based on large datasets and is performed using techniques such as data aggregation, statistical analysis, and data mining.

Examples of descriptive analytics tools and techniques include:

>Bar charts, line charts, and pie charts

>Histograms and frequency distributions

>Measures of central tendency (mean, median, mode)

>Measures of dispersion (range, variance, standard deviation)

>Cross-tabulation and pivot tables

Descriptive analytics provides a foundation for more advanced types of analytics such as predictive and prescriptive analytics.

4.Explain Predictive analytics?

Predictive analytics is a type of business intelligence that uses statistical models and machine learning algorithms to analyze data and make predictions about future events. It is used to answer questions such as "What is the likelihood of a customer churning?" or "What will be our sales next quarter?"

The goal of predictive analytics is to identify the likelihood of a particular outcome based on historical data and other relevant information. Predictive analytics is often used to identify potential risks and opportunities, and to support decision making by providing a basis for informed predictions about the future.

Examples of predictive analytics tools and techniques include:

>Regression analysis
>Decision trees
>Neural networks
>Time series forecasting
>Collaborative filtering

Predictive analytics requires large amounts of data and the ability to process and analyze it quickly. It also requires domain expertise to develop and validate the models used for prediction.

5.Explain perspective analytics?

Prescriptive analytics is a type of business intelligence that goes beyond simply predicting future outcomes and provides recommendations and guidance on the best course of action. It is used to answer questions such as "What is the best way to respond to a particular market opportunity?" or "What is the most cost-effective way to allocate resources?"

The goal of prescriptive analytics is to provide decision-makers with the information they need to make informed decisions, taking into account both the potential outcomes of a decision and the impact of constraints and objectives. It uses advanced algorithms, such as optimization and simulation, to evaluate different scenarios and recommend the best course of action.

Examples of prescriptive analytics tools and techniques include:

>Optimization algorithms
>Constraint programming
>Simulation
>Game theory
>Decision analysis

Prescriptive analytics is a more advanced form of analytics that requires a combination of technical expertise and domain knowledge to develop and implement effectively.

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

1.What are our top-selling products and which regions are they selling the most in?
2.How have our monthly sales revenue and profit margins changed over the past year?
3.What is the trend in customer churn rate and what factors contribute to it?
4.Which departments and employees have the highest expenses and what can be done to reduce costs?
5.How is our marketing campaign performance and which channels are driving the most conversions?