Power BI Assignment 1

0. What do you mean by BI? Explain.

Ans: Business intelligence (BI) is software that ingests business data and presents it in user-friendly views such as reports, dashboards, charts and graphs. BI tools enable business users to access different types of data — historical and current, third-party and in-house, as well as semi-structured data and unstructured data like social media. Users can analyze this information to gain insights into how the business is performing.

Business intelligence is delivered through BI tools which enable a simple drag-and-drop interface for analysts to perform activities such as:

Data preparation: Compiling data from multiple sources and formatting them for analysis.

Data querying: Obtaining answers from datasets to answer specific data questions.

Data visualization: Creating visual representations of analysis in charts, graphs, histograms, and more for easy understanding.

Performance metrics reporting: Comparing current performance to historical data and sharing results with stakeholders for decision-making.

Data mining: Using statistics and machine learning to uncover trends in big datasets.

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

Ans:Power BI is a BI and data visualization tool that leverages visual analytics to empower people and organizations in making the most of their data. The engaging visualizations created in Power BI take the excel workflow to the next level and help stakeholders make sense of the massive amounts of data available.

Power BI is made up of two components:

Power BI Desktop is a free desktop version that allows for data analysis and report creation and includes the Power Query Editor.

Power BI Service is a cloud-based version of Power BI, which has lightweight report editing functionality and is designed to share and distribute reports across the organization.

Most commonly, teams would use Power BI Desktop to create reports, and Power BI service to share them. There is a paid Power BI Pro version that provides collaboration abilities, a mobile app, and the ability to publish and share across the Power BI cloud platform.

1. Power BI helps us to Extract data insights with no coding skills required,one of the main strengths of Power BI is its intuitive user interface that allows both technical and non-technical analysts to build data visualizations and analyses efficiently.

2. Explains data insights with dashboards,where data is obtained from multiple sources and presented visually in charts and graphs to give a sense of the company's processes and strategies.

3. Tell data stories with advanced data visualization,Dashboards are great for monitoring data and telling users what is happening. However, data stories help shape the data into a step-by-step process to explain why specific trends are happening.

2. Explain Descriptive analytics?

Ans:Descriptive analytics takes a full range of raw data and parses it to draw conclusions that managers, investors, and other stakeholders may find useful and understandable. This data provides an accurate picture of past performance and how that differs from other comparable periods. It can also be used to compare the performance with others within the same industry. These performance metrics can be used to flag areas of strength and weakness to inform management strategies.

1. Descriptive analytics is the process of parsing historical data to better understand the changes that occur in a business.

2. Using a range of historic data and benchmarking, decision-makers obtain a holistic view of performance and trends on which to base business strategy.

3. Descriptive analytics can help to identify the areas of strength and weakness in an organization.

4. Examples of metrics used in descriptive analytics include year-over-year pricing changes, month-over-month sales growth, the number of users, or the total revenue per subscriber.

5. Descriptive analytics is used in conjunction with newer analytics, such as predictive and prescriptive analytics.

3. Explain Predictive analytics?

Ans: 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.

1. Predictive analytics uses statistics and modeling techniques to determine future performance.

2. Industries and disciplines, such as insurance and marketing, use predictive techniques to make important decisions.

3. Predictive models help make weather forecasts, develop video games, translate voice-to-text messages, customer service decisions, and develop investment portfolios.

4. People often confuse predictive analytics with machine learning even though the two are different disciplines.

5. Types of predictive models include decision trees, regression, and neural networks.

4. Explain perspective analytics?

Ans: Prescriptive analytics is a type of data analytics that attempts to answer the question "What do we need to do to achieve this?" It involves the use of technology to help businesses make better decisions through the analysis of raw data. Prescriptive analytics specifically factors information about possible situations or scenarios, available resources, past performance, and current performance, and suggests a course of action or strategy. It can be used to make decisions on any time horizon, from immediate to long-term. It is the opposite of descriptive analytics, which examines decisions and outcomes after the fact.

1. Prescriptive analytics is a form of data analytics that tries to answer "What do we need to do to achieve this?"

2. It uses machine learning to help businesses decide a course of action based on a computer program’s predictions.

3. Prescriptive analytics works with predictive analytics, which uses data to determine near-term outcomes.

4. When used effectively, it can help organizations make decisions based on facts and probability-weighted projections instead of conclusions based on instinct.

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

1) Power BI helps in monitoring the processes of the company. It can easily spot trends with the help of the data gathered during monitoring.

2) Data Analysis Expressions (DAX) provides a wide range of functionalities for trends analysis.

3) The trending AI Capabilities of Power BI help you visualize the future using predictive analytics and other such big data tools.

4) This can help businesses foresee any need to recruit more employees, change a specific requirement, or further invest in technology.

5) Power BI helps you to access your data instantly with less manual work. It can handle a huge amount of data making it easy to decipher using advanced visualizations. It allows you to get data from different data sources by automatically connecting with them, saving you time and effort.

6) Power BI helps you quickly identify data quality issues and provides numerous ways to address them. Power Query provides you with exciting features to clean and prepare data for analysis. The data profiling tools can help you remove all the inconsistencies, null values, and data quality problems.