1. **What do you mean by BI? Explain.**

BI, short for **"Business Intelligence**" involves using technology and strategies to collect, analyze, and present data for informed decision-making, transforming raw data into actionable insights.

**Overview of Business Intelligence (BI):-**

* **Data Insight**: Transforming data into actionable insights.
* **Key Components**: Data collection, integration, analysis, and visualization.
* **Decision Support**: Assisting in informed decision-making.
* **Predictive Analytics**: Forecasting future trends from historical data.
* **Performance Monitoring**: Real-time tracking of key metrics.
* **Data Governance**: Ensuring data quality, security, and compliance.
* **Visual Dashboards**: User-friendly charts, graphs, and reports.
* **Efficiency Enhancement**: Streamlining operations and resource allocation.
* **Opportunity Discovery**: Identifying growth and optimization possibilities.
* **Data-Driven**: Enabling organizations to make data-based decisions.

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

Power BI helps in BI (Business Intelligence) and provides significant benefits to analysts. Here's how Power BI assists in BI and benefits analysts:

* **Data Integration:** Connects to diverse data sources and make connections between the different type of data
* **Data Transformation:** Cleanses and shapes data to perform various operations.
* **Data Modeling:** Defines relationships for complex analysis between various type of data**.**
* **Visualizations:** Offers customizable charts and graphs and differen type of visuals that give meaningful insights**.**
* **Dashboards:** Creates interactive, consolidated KPI(Key Performance Indicators) displays real-time scenarios .
* **Collaboration:** Facilitates sharing among teams through various tools**.**
* **Real-Time Analytics:** Supports live data analysis **.**
* **Natural Language Queries:** Allows plain-language explorations.
* **Mobile Access:** Provides on-the-go reporting via mobile too**.**
* **Data Security:** Ensures privacy and compliance.
* **AI Integration:** Leverages AI and machine learning for advanced insights

1. **What is Descriptive Analytics?**

Descriptive analytics in Power BI provides a snapshot of historical data to understand past trends and patterns:

* **Snapshot of Insights**: Visualize historical data for a quick overview.
* **Trend Tracking**: Discover patterns and changes over time.
* **Key Metric Spotlight**: Highlight crucial performance indicators.
* **Data Summarization**: Condense data for concise analysis.
* **Time Travel Analysis**: Explore historical data for insights.
* **Comparative Analysis**: Assess progress through historical comparisons.
* **Drill into Details**: Delve deeper into data at varying levels.
* **Insightful Reports**: Create compelling reports to share findings.

1. **What is Predictive Analytics?**

Predictive Analytics means understanding the future. It provides estimates about the likelihood of a future outcome.Companies use these statistics to forecast what might happen in the future.

* **Data Divination**: Unearths future insights from historical and present data.
* **Model Magic**: Constructs forecasting models using advanced algorithms.
* **Feature Fortune-Telling**: Employs pertinent data as crystal balls for predictions.
* **Precision Validation**: Ensures model accuracy through rigorous testing.
* **Crystal Clear Forecasts**: Provides foresight into forthcoming outcomes and trends.
* **Versatile Applications**: Serves diverse industries, from demand prediction to fraud detection.
* **Algorithm Alchemy**: Utilizes machine learning wizardry for model creation.
* **Risk Oracle**: Identifies and mitigates risks for well-informed choices.
* **Recommendation Revelations**: Powers recommendation engines in online realms.
* **Evergreen Enhancement**: Keeps models updated with new data for perpetual precision.

One common application most people are familiar with is the use of predictive analytics to produce a credit score .

1. **What is Prescriptive Analytics?**

Prescriptive Analytics means advise on possible outcomes. It acts as a decision-making wizard, offering data-driven solutions to achieve optimal outcomes.

* **Decision Wizardry**: Guides organizations with actionable recommendations.
* **Data Alchemy**: Utilizes historical, real-time, and predictive data.
* **Scenario Sorcery**: Simulates various scenarios to find ideal outcomes.
* **Constraints Conjuring**: Considers defined constraints and objectives.
* **Algorithmic Alchemy**: Leverages advanced algorithms and machine learning.
* **Resource Enchantment**: Optimizes resource allocation and utilization.
* **Complex Conundrums**: Ideal for intricate decisions with multiple variables.
* **Real-Time Sage**: Provides swift decision support for changing conditions.
* **Versatile Applications**: Applies in supply chain, healthcare, finance, and more.
* **Sensitivity Sorcery**: Evaluates the impact of variable changes on decisions.
* **Continuous Improvement**: Enhances results through ongoing data refinement.

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

**1.**  **Market Basket Analysis:**

* + What products are often purchased together, and how can we use this information for cross-selling or promotions?

1. **Employee Turnover Prediction:**
   * Can we identify factors leading to employee turnover and take proactive measures to retain valuable talent?
2. **Energy Consumption Monitoring:**
   * How can we track energy consumption across facilities and optimize energy usage for cost savings and sustainability?
3. **Supply Chain Visibility:**
   * Where are potential bottlenecks or delays in our supply chain, and how can we ensure smoother operations and on-time deliveries?
4. **Customer Churn Prevention:**
   * Which customers are likely to churn, and what strategies can we implement to retain them and reduce churn rates?