**Power BI Assignment-1**

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

* BI in Power BI stands for Business Intelligence.
* Business Intelligence (BI) is the set of techniques and tools for transforming raw data into meaningful, valuable, and helpful information for business analysis purposes.
* Some of the specific benefits that businesses experience when using BI include:
* Increased efficiency of operational processes.
* Insight into customer behaviour and shopping patterns.
* Accurate tracking of sales, marketing, and financial performance.
* Clear benchmarks based on historical and current data.
* Instant alerts about data anomalies and customer issues.
* Analyses that can be shared in real-time across departments.

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

* The world of Business Intelligence has been simplified with an easy and quick business intelligence tool for effective Data Visualization – the Power BI. This Business Analytics service by Microsoft brings together raw data from various sources like a simple spreadsheet on a desktop to a cloud-based data. Simple, fast, robust and enterprise grade, it can be used by non-technical people to visually analyse and share data due to its versatility and minimum training. And this deems it ready for extensive modelling, real time analytics and custom development.
* Power Bi help Analysts in many ways:
* One of Power BI's greatest advantages is its extensive data connectivity. The tool connects to multiple tabular databases and integrates with a host of corporate tools and systems to make importing and exporting data, dashboards and reports as simple and fast as possible.
* Power BI is one of the most complete platforms for data visualisation. In the tool's AppSource you will find a lot of Power BI visuals validated by Microsoft, but you can also create your own custom visuals.
* Power BI is the optimal platform for increasing the value of your regular Excel data analysis with advanced analytics. You can enrich business data by ingesting, transforming and integrating data services to other Microsoft suite's tools.
* Power BI contains extensive data exploration options as well as automated queries. With this tool, discovering insights from data will be much easier. It is also the ideal platform for working with a top-down methodology.
* Finally, it should be noted that Power BI was conceived as an enterprise tool designed to be used by business users. Clearly, its main users are data analysts and BI consultants. However, the business conception of the platform makes it one of the BI tools with the best usability and user interface. In addition, with Power BI you can adapt your reports to your brande image and automate the process by designing themes that can be applied to all your reports.

1. **Explain Descriptive analytics?**

* Using descriptive analytics, you can better understand how changes in a firm have changed by analysing historical data.
* Decision-makers have a comprehensive understanding of performance and trends on which to base corporate strategy by using a variety of historical data and benchmarking.
* The strengths and weaknesses of an organisation can be determined with the aid of descriptive analytics.
* Descriptive analytics may use metrics like year-over-year price fluctuations, month-over-month sales growth, user count, or total revenue per subscriber.

1. **Explain Predictive analytics?**

* The use of statistics and modelling approaches to forecast future results and performance is known as predictive analytics. With predictive analytics, data patterns in the past and present are examined to see if they are likely to recur. This enables companies and investors to change where they allocate their resources in order to profit from potential future occurrences. Additionally, operational savings and risk reduction can be increased through predictive analysis.
* The development of video games, voice-to-text message translation, customer service decisions, and investment portfolios are all made possible with the use of predictive models.
* Despite the fact that they are two distinct fields, machine learning and predictive analytics are frequently confused.
* Decision trees, regression, and neural networks are examples of several kinds of predictive models.

1. **Explain perspective analytics?**

* Prescriptive analytics is a subset of data analytics that seeks to provide a solution to the query, "What must we do to accomplish this?" Through the examination of raw data, technology is used to assist organisations in making better decisions. Prescriptive analytics makes recommendations for a course of action or strategy based on knowledge about potential situations or scenarios, available resources, past performance, and current performance. It can be applied to decision-making on any time horizon, from the short term to the long term. Descriptive analytics, on the other hand, assess choices and results after the fact.

1. **Write five real-life questions that Power Bi can solve.**
2. **Challenge 1:** It is time-consuming to gather the information and reporting.

* Solution: We can connect our data with Power BI and gain instant insights without wasting much time.

1. **Challenge 2:** Team collaboration is difficult. Collaborating and sharing your findings with your team is a challenge.

* Solution: With Power BI, manager can give access to the data to employees which they need.

1. **Challenge 3:** Sometimes the reports does not give us the level of detail that we require.

* Solution: Dynamic reporting in Power BI can easily help us with the challenge and can provide us a great detail of information.

1. **Challenge 4:** If we want to generate reports, we have to be in the office. There is lack of flexibility while preparing the reports manually.

* Solution: Power BI is very flexible; we can access it with mobile or any other device.

1. **Challenge 5:** Lack of Security.

* Solution: Power BI overcomes these issues by leveraging Azure Active Directory for authentication and Power BI login credentials to access the resources.