

NAME:- AFNAN ATTAR PRN:- F19112003 CLASS:- BE  
 COMP.II SUBJECT:- LP VI [BI] ASSIGNMENT:- 01

Q1) What do you understand by BI?

Ans 1. BI stands for business intelligence.

2. It is a technology driven method that helps users analyze and visualize business data from thousands of data sources and share insights across their organizations.
3. It also provides other information that may help corporate executives, business managers and other users make business decision.
4. Common functions of BI include but are not limited to data mining, process mining, reporting, online analytical processing, prescriptive analysis.

Q2) What is Power BI?

Ans 1. Power BI is a Business Analytics solution or a Business Intelligence and Data Visualization tool.

2. It is developed by Microsoft in the year 2014.
3. It enables users to convert data from thousands of data sources into interactive dashboards and BI reports.
4. It is a cloud-based self service BI tool that collects application, multiple software connectors and services used to organize raw data into important content.

Q3) What are the essential applications that use Power BI?

Ans Microsoft's Power BI is mostly used by the following applications.



- 1) Business & Data Analyst
- 2) Project Management Office (PMO)
- 3) Developer & Database Admin.
- 4) Data Scientists
- 5) IT Team/Professionals
- 6) Consumers for final report.

Q4) In how many formats Power BI is available in the market?

Ans It is available in 3 formats:-

- 1) Power BI desktop:- For desktop computers.
- 2) Power BI service:- Online SaaS.
- 3) Mobile Power BI apps:- For Android/iOS devices.

Q5) What do you mean by the term Power BI Desktop?

Ans 1. Power BI Desktop is a free business intelligence app.

2. It is used to install on the computer system to work with Power BI services.
3. It offers shaping, modelling, data exploration, and report creation using high interactive visualization.
4. It allows us to save all our work to a file to publish reports and data to the Power BI site so that we can share it to others too.



NAME:- AFNAN ATTAR PRN:- F19112.D03 CLASS:- BE COMP II  
SUBJECT:- LP VI [BI] ASSIGNMENT No. :- 02

Q1) Explain how ETL works?

Ans Let us see what happens in each step of the process:-

I] Extraction:-

1. During data extraction, raw data is copied or exported from source location to a staging area.
2. Data management teams can extract data from various data sources that can be structured or unstructured.
3. Sources include but are not limited to:-
  - SQL or NoSQL servers.
  - CRM and ERP systems
  - Flat Files, Emails, Web Pages.

II] Transform:-

1. In this process data is transformed and consolidated for its intended analytical use case.
2. It may involve:-
  - Filtering, cleaning, de-duplicating, validating and authenticating data.
  - Performing calculations, translations or summarization based on raw data.
  - Conducting audits to ensure data quality & compliance.
  - Removing, encrypting, or protecting data governed by industrial or governmental regulators.
  - Formatting the data into tables or joined tables to match the schema of the target warehouse.

III] Load:-



1. In this step the transformed data is moved from staging area into a target data warehouse.
2. It involves initial loading of all data followed by periodic loading of incremental data changes, and, less often, full refreshes to erase and replace data in the warehouse.

Q2> What are the benefits and challenges of ETL?

Ans 1. ETL solutions improve quality by performing data cleansing prior to loading the data to a different repository.

2. A time-consuming batch operation, ETL is recommended for creating smaller target repository more often than not that require less frequent updating while other methods such as:-

- i) Extract, load, Transform [ETL]
- ii) Change Data Capture [CDC]
- iii) Data Visualization

are used to integrate increasingly larger volumes of data that changes or real-time data streams.