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## Question No 1.

Azure Synapse Analytics is a thorough, cloud-based service for enterprise analytics that combines data integration, enterprise data warehousing, and big data analytics. You can retrieve data based on your preferences, utilizing either serverless or dedicated resources efficiently. Important characteristics consist of:

* Integrated solution for data intake, processing, control, and distribution to meet real-time business intelligence and machine learning requirements.
* Combines SQL technologies, Spark, Data Explorer, Pipelines and strong integration with other Azure services such as Power BI, CosmosDB and Azure ML.
* Offers SQL compute resources for both serverless and dedicated purposes
* Incorporated assistance for conducting analytics on data lakes.

## Question No 2.

A data lake is a central storage where you can keep all your structured and unstructured data, no matter the size. You have the option to store data without needing to organize it beforehand, and perform various types of analytics, including dashboards, visualizations, big data processing, real-time analytics, and machine learning.  
  
Data lakes are utilized for retaining unprocessed data in its original form until it is required. This enables organizations to collect various types of data and prepare for potential future needs that may not be identified during the initial data intake. Azure Data Lake Storage works with Azure Synapse Analytics to allow analysis of organized and unorganized data.

## Question No 3.

Apache Spark is a distributed computing system that is open-source and utilized for processing and analyzing large volumes of data. It offers advanced APIs in Java, Scala, Python, and R, along with a streamlined engine that enables general execution graphs.

Azure Synapse Analytics enables seamless integration of Apache Spark for processing large datasets, executing data engineering tasks, conducting ETL operations, and constructing machine learning models. It is utilized for activities such as manipulating data, creating new features, and executing advanced analytical queries on extensive datasets.

## Question No 4.

The process of sentiment analysis involves identifying the emotional tone of a group of words in order to grasp the attitudes, opinions, and emotions conveyed in an online mention.

Within the realm of Azure Synapse Analytics, sentiment analysis can be conducted on extensive datasets containing customer feedback, social media posts, or product reviews. This could assist companies in comprehending customer feelings about their products or services, monitoring brand reputation, and pinpointing areas for enhancement.

## Question No 5.

Azure App Service is a platform that is fully managed and used for creating, deploying, and expanding web applications. It offers compatibility with various programming languages and frameworks such as .NET, Java, Node.js, Python, and PHP.

Although not a direct component of Azure Synapse Analytics, App Service can be combined with Synapse to develop web applications that utilize and showcase analytics findings. An instance is when an App Service can host a dashboard app displaying live analytics generated by Synapse.

## Question No 6.

Power BI is a service for business analytics created by Microsoft that offers interactive visualizations and business intelligence features. It has a user-friendly interface that allows end users to design their own reports and dashboards.  
  
Power BI seamlessly integrates with Azure Synapse Analytics, enabling users to effortlessly display and distribute insights derived from their data. It offers a user-friendly interface that allows business users without technical skills to easily create reports and dashboards, giving them access to data.

## Question No 7.

Azure Synapse Studio offers a consolidated working environment for teamwork among data engineers, data scientists, and business analysts for tasks such as data integration, data warehousing, big data, and AI. It offers a codeless setting to create workflows, oversee datasets, and display data.  
  
Serverless Data Exploration: Azure Synapse provides a serverless choice for querying data through T-SQL. This function enables users to examine and interpret information in data lakes without requiring resource provisioning, resulting in cost reductions and increased adaptability.

## Question No 8.

Azure Synapse can analyze and process streaming data from IoT devices, social media, or other real-time sources with Real-Time Analytics. This allows businesses to obtain insights and make real-time decisions, such as monitoring system health or tracking customer behavior.  
  
Businesses have the option to utilize Azure Synapse for the amalgamation of data from different sources into one data warehouse, facilitating advanced analytics, reporting, and business intelligence. It makes data management and analysis easier by allowing data integration from various data lakes, databases, and storage solutions.

## Question No 9.

* Adobe
* BMW
* GE Healthcare
* Maersk
* Coca-Cola
* Walgreens Boots Alliance
* ASOS
* ExxonMobil
* Honeywell
* LinkedIn

## Question No 10.

Social media analytics involves collecting and evaluating data from social media sites in order to guide business choices. Gathering information from social networks, blogs, and forums is done to analyze user actions, feelings, and patterns.

Social media data can be brought in, handled, and examined at a large scale through Azure Synapse Analytics. This enables companies to understand customer feelings, monitor brand references, recognize influential individuals, and comprehend market patterns. The outcomes can shape marketing tactics, enhance product creation, and boost customer service.