**ACTIVIDAD #2**

**Tipo actividad: Reading comprehension activity: Reading comprehension: "Understanding why companies need data in motion (Book-Big Data for Dummies)and Fill in the blank activity based on the reading text.**

**7) Vocabulary related to "Understanding why companies need data in motion (Book-Big Data for Dummies)"**

* Data in Motion: Refers to data that is actively being transported or transmitted from one location to another, as opposed to being stored.
* Real-time: Denotes the immediate processing and analysis of data as it is generated or received, without delay.
* Streaming Data: Continuous flow of data that is generated, transmitted, and processed in real-time, often in the form of continuous streams.
* Business Insights: Valuable information and knowledge gained from analyzing data, often used to make informed business decisions.
* Data Warehouse: A centralized repository where large volumes of structured and unstructured data are stored, organized, and managed for analysis and reporting.
* Middleware Layer: An intermediary software layer that facilitates communication and integration between different software applications or components.
* Sensors: Devices that collect physical, chemical, or biological data from the environment and convert it into electrical signals for monitoring and analysis.
* Predictive Analytics: The use of statistical algorithms and machine learning techniques to identify patterns and predict future outcomes based on historical data.
* Environmental Impact: The effect of human activities and natural events on the environment, including ecological, physical, and cultural consequences.
* Multiparameter Modeling Systems: Complex models that consider multiple factors or parameters simultaneously, providing a comprehensive understanding of dynamic interactions within a given system.

**8) Reading comprehension: "Understanding why companies need data in motion (Book-Big Data for Dummies)"**

**Archivo PDF:**

[**https://drive.google.com/file/d/1Ag-bMH7AoX43Q31D-0c1Brl96tyvlaUb/view?usp=sharing**](https://drive.google.com/file/d/1Ag-bMH7AoX43Q31D-0c1Brl96tyvlaUb/view?usp=sharing)

**9) True or False activity based on the reading of the text.**

1. True or False: Data in motion refers to data that is stored in a database in a data center or the cloud.
2. True or False: Real-time processing of streaming data is becoming less important for companies needing to make critical decisions quickly.
3. True or False: The value of streaming data lies in its ability to be stored and analyzed after it reaches a resting location.
4. True or False: Predictive analytics involves using historical data to make forecasts about future events or outcomes.
5. True or False: Environmental research programs are increasingly incorporating real-time analysis of data in motion to enhance predictions and protect natural resources.

**10) Fill in the blank activity based on the reading text.**

* To complete a credit card transaction, finalize a stock market transaction, or send an e-mail, data needs to be transported from one location to another. Data is at rest when it is stored in a database in your data center or in the cloud. In contrast, data is in motion when it is in transit from one resting location to another.

Fill in the blank: Data is \_\_\_\_\_\_\_\_\_\_\_\_ when it is in transit from one resting location to another.

* Many real-world examples of continuous streams of large volumes of data are in use today. Sensors are connected to highly sensitive medical equipment to monitor performance and alert technicians of any deviations from expected performance.

Fill in the blank: Sensors are connected to highly sensitive medical equipment to monitor performance and alert technicians of any deviations from \_\_\_\_\_\_\_\_\_\_\_\_.

* Data in motion, often in the form of streaming data, is becoming increasingly important to companies needing to make decisions when speed is a critical factor. If you need to react quickly to a situation, having the capability to analyze data in real time may mean the difference between either being able to react to change an outcome or to prevent a poor result.

Fill in the blank: Data in motion is often in the form of \_\_\_\_\_\_\_\_\_\_\_\_.

* Scientists measure and monitor various attributes of lakes, rivers, oceans, seas, wells, and other water environments to support environmental research. Important research on water conservation and sustainability depends on tracking and understanding underwater environments and knowing how they change.

Fill in the blank: Important research on water conservation and sustainability depends on tracking and understanding \_\_\_\_\_\_\_\_\_\_\_\_ environments.

* In both examples, sensors are used to collect large volumes of data as events are taking place. Although infrastructure platforms vary, it is typical to include a middleware layer to integrate data collected by the sensor with data in a data warehouse.

Fill in the blank: Although infrastructure platforms vary, it is typical to include a middleware layer to integrate data collected by the sensor with data in a \_\_\_\_\_\_\_\_\_\_\_\_.