

## Quiz 3 - Data Formats and Streaming Data Quiz

1. What is true between data modeling and the formatting of the data?

- There is a one to one correspondence between formatting data and data modeling. For every model of data, there is only one way to store the data.
- There is always one specific schema for storing model data that is the best and preferred method for the specific data representation.
- **The data does not necessarily need to be formatted in a way that represents the data model. Just so long as it can be extrapolated.**

2. What is streaming?

- Calculating results using real time data otherwise known as streaming data.
- Using static data stored from a real time source in order to process and guide the application.
- **Utilizing real time data to compute and change the state of an application continuously.**
- Using sensors to manipulate the system, such as a smart car being able to drive by itself using sensors to detect road hazards.

3. Of the following, what best describes the properties of working with streaming data?

- **Small time windows for working with data.**
- Data is always utilized for streaming the application.
- **Data manipulation is near real time.**
- **Independent computations that do not rely on previous or future data.**
- Always unbounded in sequence, in other words, data is not guaranteed to be in order.
- **Does not ping the source interactively for a response upon receiving the data.**

#### 4. What is a characteristic of streaming data?

- **Data is unbounded in size but requires only finite time and space to process it.**
- The data is unbounded in size and the size determines the time and space of processing the data.
- The data is finite and requires only finite time and space to process the data.
- Data is finite in size and size determines the time and space of processing the data.

#### 5. What type of algorithm is required for analyzing streaming data?

- Accurate and Consistent
- Accurate and Memory Efficient
- Fast and Complex
- **Fast and Simple**

#### 6. What is lambda architecture?

- A specific method for processing streaming data using special real time processes.
- A specific hardware architecture for a server made specifically for processing real time data.
- **A method to process streaming data by utilizing batch processing and real time processing.**

#### 7. Of the following, which best represents the challenge regarding the size and frequency of data?

- The size and frequency of the streaming data may be too small.
- **The size and frequency of the streaming data may be sporadic.**
- There may not be data to produce the notion of size and frequency.

#### 8. What is the difference between data lakes and data warehouses?

- **Data lakes house raw data while data warehouses contain pre-formatted data.**
- Data lakes contain only files while data warehouses contain only databases.
- Data lakes utilize hierarchical systems while data warehouses use object storage.

## 9. What is schema-on-read?

- The process where formatted data is given structure when read.
- Another name for data lakes.
- **Data is stored as raw data until it is read by an application where the application assigns structure.**
- The process where data is pre-formatted prior to being read but the schema is loaded on read.