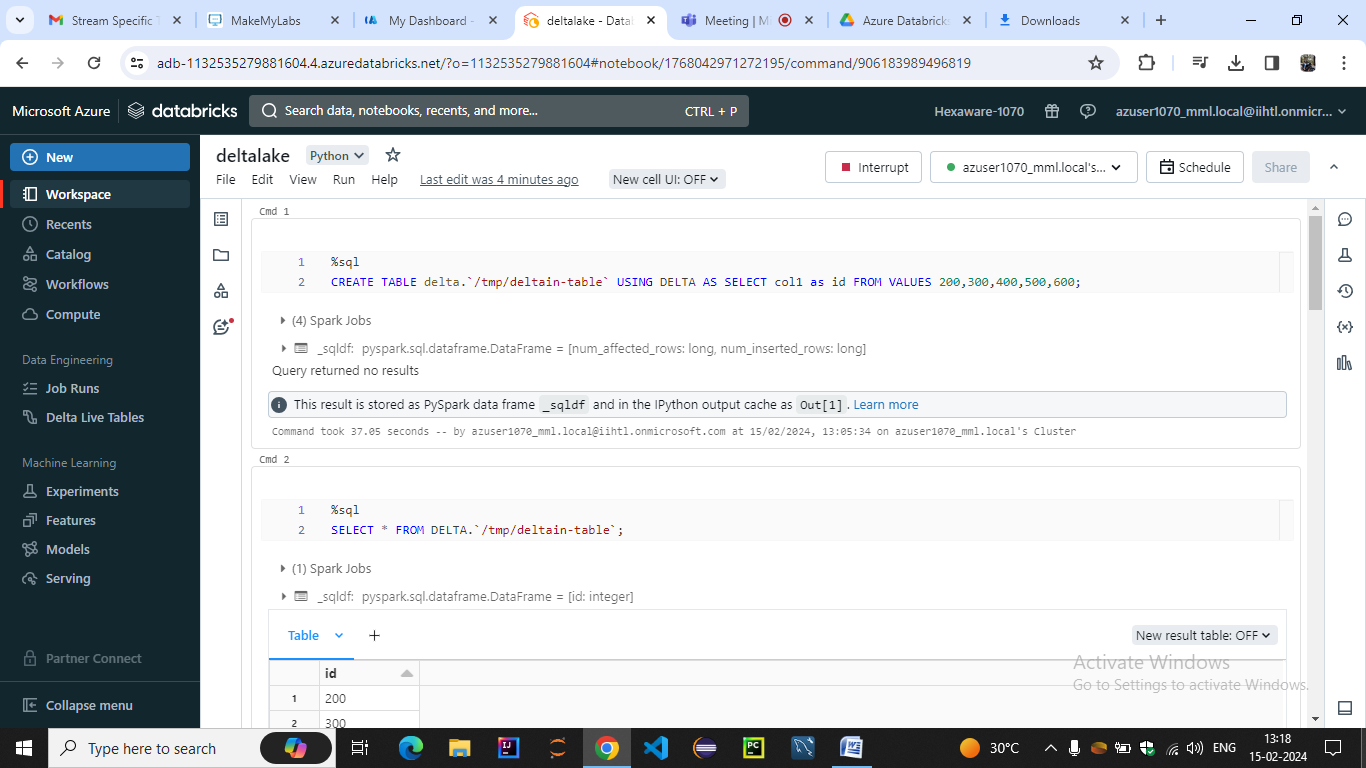
**NAME :- ANIKET SANJAYKUMAR BIYANI**

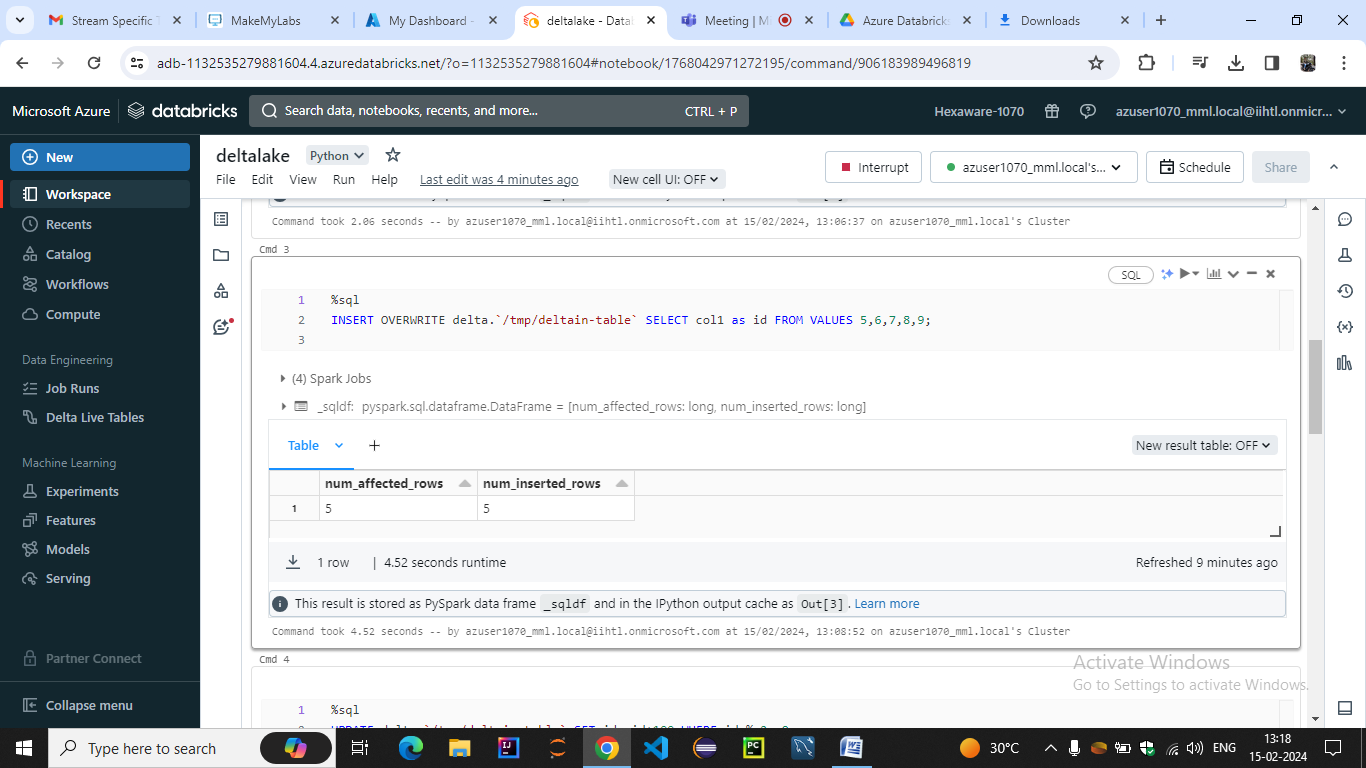
**DATA ENGINEERING BATCH -1**

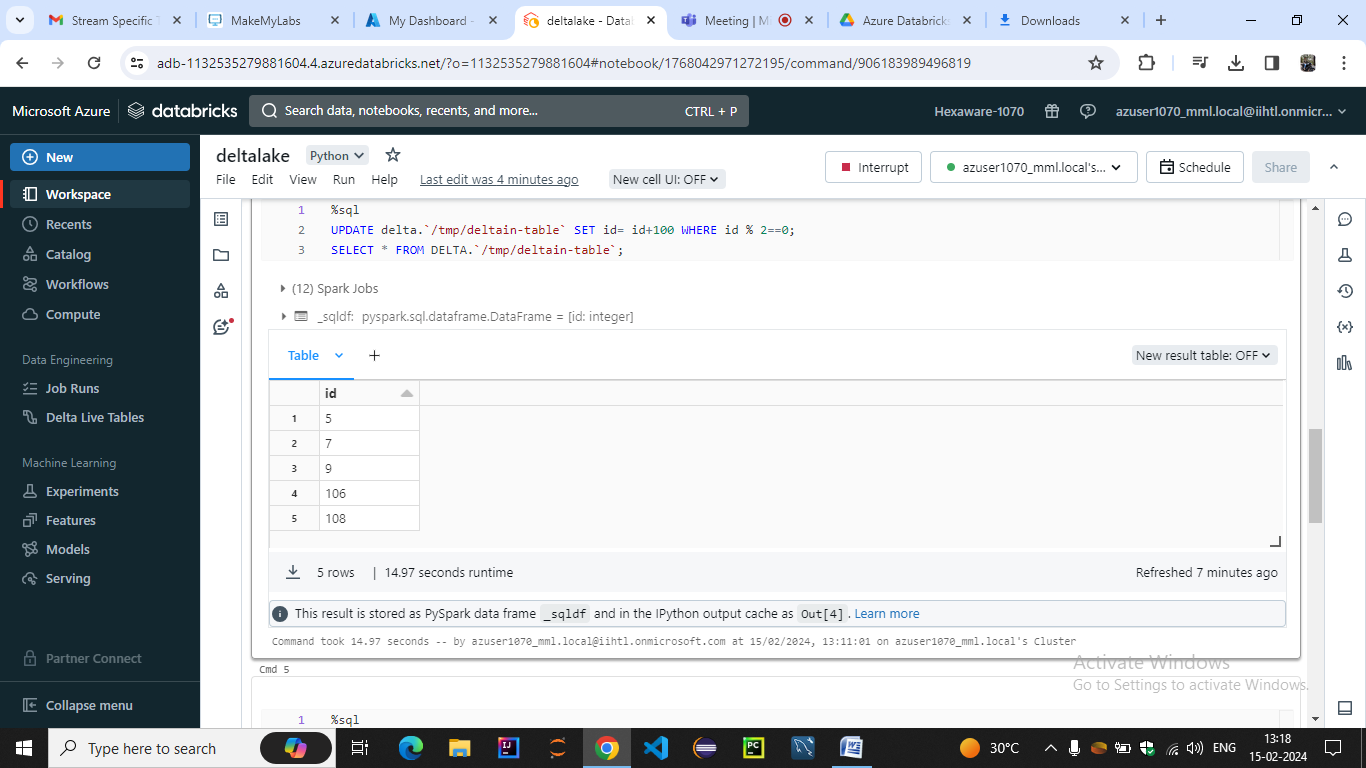
**AZURE DAY 3- ASSIGNMENT**

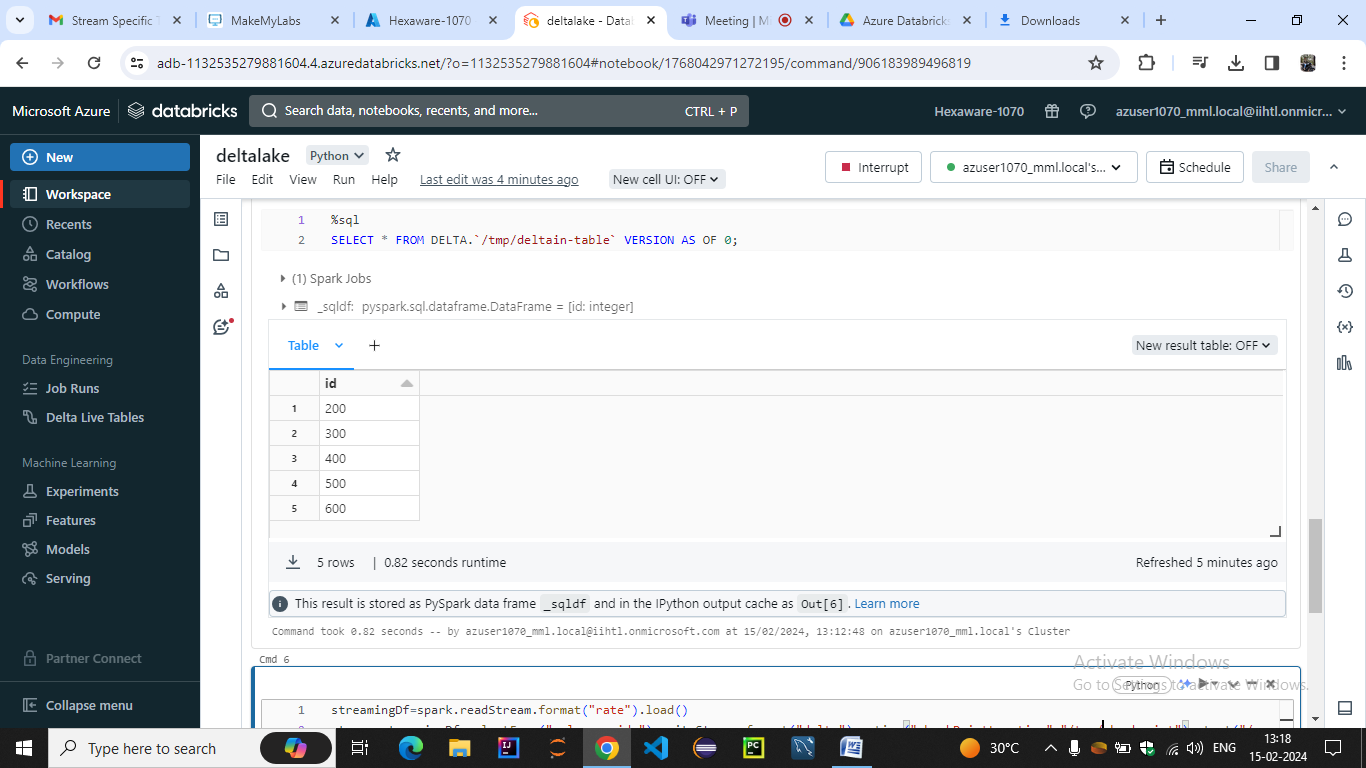
**Delta Lake**:

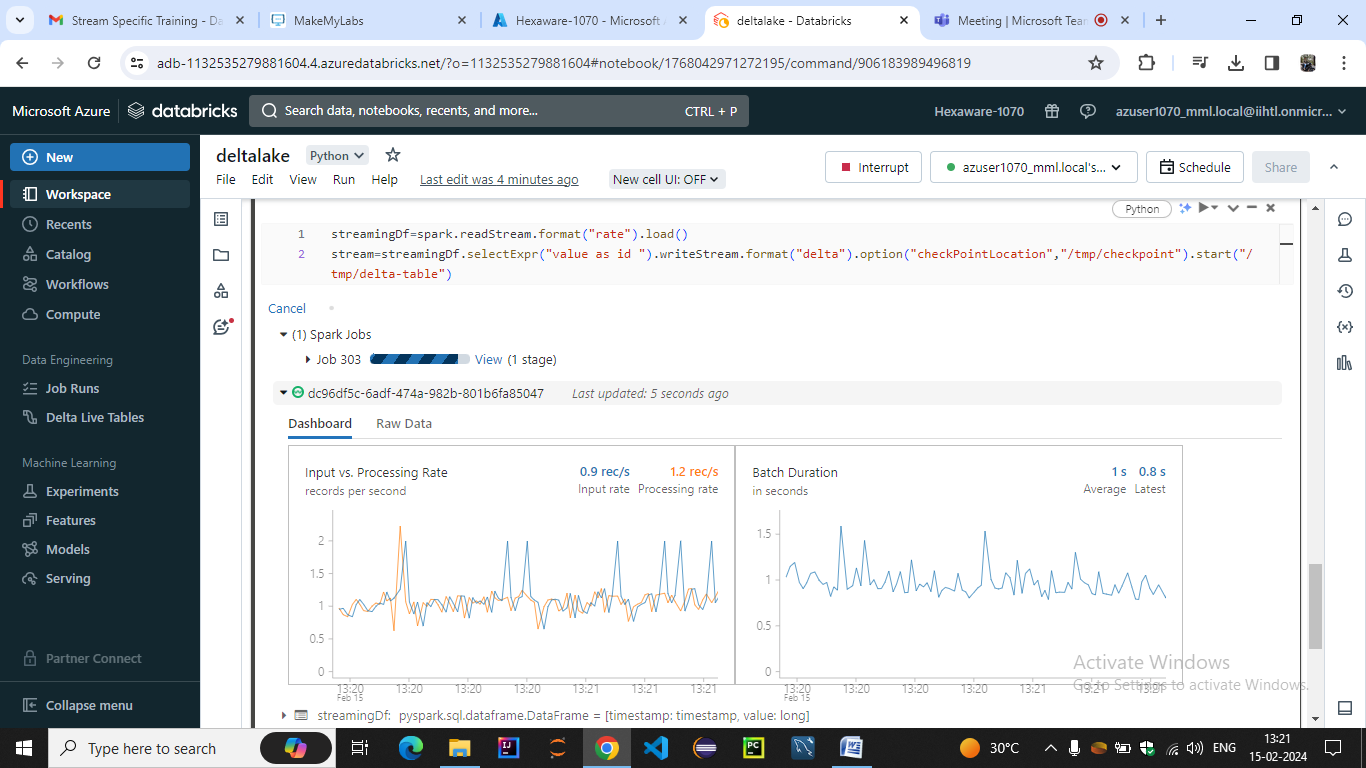
* Delta Lake is the optimized storage layer that provides the foundation for storing data and tables in the Databricks lakehouse.
* Delta Lake is open source software that extends Parquet data files with a file-based transaction log for ACID transactions and scalable metadata handling.
* Delta Lake is fully compatible with Apache Spark APIs, and was developed for tight integration with Structured Streaming, allowing you to easily use a single copy of data for both batch and streaming operations and providing incremental processing at scale
* Delta Lake is an open-source storage layer that brings ACID transactions, schema enforcement, and data versioning to Apache Spark and other big data processing engines.
* It's designed to address challenges associated with data lakes, such as data reliability, data consistency, and data quality.
* ACID Transactions: Delta Lake provides support for ACID (Atomicity, Consistency, Isolation, Durability) transactions, ensuring that operations like inserts, updates, and deletes are atomic and consistent.
* Schema Enforcement: Delta Lake allows users to define and enforce schema on their data, ensuring that it adheres to predefined structures and data types. This helps maintain data quality and consistency over time
* Data Versioning: Delta Lake automatically versions the data as changes are made, allowing users to time-travel to previous versions of the data or rollback to specific points in time. This feature is valuable for auditing, compliance, and reproducibility.
* Use Cases: Delta Lake is commonly used for building reliable data pipelines, implementing data lakes with transactional capabilities, enabling stream processing with exactly-once semantics, and improving data quality in big data environments.
* **Delta Lake**
* **-Create Delta Table with Existing Data in Databricks**

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