**Micro Partitions:**  MP is automatically performed on all snowflake tables. and the snowflake is a columar based and data is harizontally partitioned. In Snowflake, **all data is automatically divided into micro-partitions** when loaded.

* Each micro-partition is:
  + ~**50 MB to 500 MB** in size (compressed).
  + Stored in **columnar format** (good for analytics).
  + Immutable (once written, it’s not updated — new versions are created instead).

**🔹 How They Work**

1. When you load data into a table, Snowflake automatically organizes it into micro-partitions.
2. Each micro-partition stores metadata (like min/max values, row count, distinct values).
3. During query execution, Snowflake uses this metadata for **pruning** (skipping partitions that don’t match the query).

**Clustering:** Clustering is a key facotr in query performance, it reduces the scanning of micro partitions. and its try to hold all the relavant data into the micro partitions. we can define cluster keys on multiple cloumns as well. we can modifiy the cluster keys based on our requirements this is called as re-clustering.

**Choosing Cluster Keys:**

- Columns frequently used in filter conditions(where clause).

- Cloumns using as join keys

- Frequently used functions or expressions

- define cluster keys on large tables and dont on small tables

- Dont define cluster keys on more than 4 columns.