



## COURSE 2 - MYSQL DATABASE

### ( Unit - 12 : Windows Functions)

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### Instructions:

- Make sure to follow the standards and naming conventions while creating tables, columns, etc.
- Please create a database schema before starting SQL operations if the schema doesn't exist.
- Ensure you set the database scheme you want to work with before starting SQL operations.
- Make sure to include audit columns with default values when creating tables so the system will use them if the user provides no value.
- Be sure to include the necessary columns when creating tables to maintain the history of the event or transaction.

#### Schema : Finance

Remove the Currency Symbol in Amount\_in\_Local\_Currency before proceeding Examples

## Aggregate Functions as Window Function

1. Calculate the running total of `Amount\_in\_Local\_Currency` for each `GL\_Account\_Number` partitioned by `Fiscal\_Year` and ordered by `Period` within each partition.



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2. Find the average `Amount\_in\_Local Currency` for each `Cost\_Center\_Code` partitioned by `Fiscal\_Year`.
3. Determine the maximum `Amount\_in\_Local Currency` for each `Country\_Code` partitioned by `Fiscal\_Year`.
4. Calculate the difference between the current `Amount\_in\_Local Currency` and the previous `Amount\_in\_Local Currency` for each `GL\_Account\_Number` partitioned by `Fiscal\_Year`, ordered by `Period`.
5. Find the sum of `Amount\_in\_Local Currency` for each `Country\_Code` partitioned by `Fiscal\_Year` and `Period`, considering only the top 3 highest amounts.
6. Calculate the cumulative average of `Amount\_in\_Local Currency` for each `GL\_Account\_Number` partitioned by `Fiscal\_Year`, ordered by `Period` within each partition.
7. Determine the maximum `Amount\_in\_Local Currency` for each `GL\_Account\_Number` partitioned by `Fiscal\_Year` and `Country\_Code`.
8. Find the sum of `Amount\_in\_Local Currency` for each `Company\_Code` partitioned by `Fiscal\_Year` and `Period`, considering only the bottom 5 lowest amounts.
9. Calculate the rank of `Amount\_in\_Local Currency` for each `GL\_Account\_Number` partitioned by `Fiscal\_Year` and `Country\_Code`, ordered by `Amount\_in\_Local Currency` descending.



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10. Find the running total of `Amount\_in\_Local Currency` for each `Cost\_Center\_Code` partitioned by `Fiscal\_Year` and `Period`, ordered by `Period` within each partition.

## LAG and LEAD Functions

### 1. LAG Function Practice:

1. Retrieve the GL\_Account\_Number and the previous period's Amount\_in\_Local\_Currency for each record.
2. Calculate the difference in Amount\_in\_Local Currency between the current period and the previous period for each record.
3. Retrieve the previous period's amount for each GL account number.
4. Find the previous period's amount for each cost center code.

### 2. LEAD Function Practice:

1. Retrieve the GL\_Account\_Number and the next period's Amount\_in\_Local Currency for each record.
2. Calculate the percentage change in Amount\_in\_Local Currency between the current period and the next period for each record.
3. Obtain the next period's amount for each GL account number.
4. Calculate the next period's amount for each cost center code.

### 3. Combined Practice:

1. Using the LAG function, retrieve the GL\_Account\_Number and the previous period's Amount\_in\_Local Currency for each record.
2. Using the LEAD function, retrieve the GL\_Account\_Number and the next period's Amount\_in\_Local Currency for each record.



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3. Calculate the difference between the previous period's Amount\_in\_Local Currency and the next period's Amount\_in\_Local Currency for each record.
4. Retrieve both the previous and next period's amount for each GL account number.
5. Find both the previous and next period's amount for each cost center code.
6. For each record, retrieve the GL\_Account\_Number, Amount\_in\_Local Currency, and the Amount\_in\_Local Currency from the previous period where the GL\_Account\_Number is the same.
7. Ensure that only records with a non-null previous period Amount\_in\_Local Currency are included.