Practical MySQL

Session 7

MySQL Clauses and Indexes

Session Overview

- Describe MySQL HAVING and ORDER BY clause

- Describe MySQL GROUP BY clause

- Define and use ROLLUP Modifier

- Explain Indexes in MySQL

HAVING and ORDER BY

HAVING clause

- Used to select statements to define filter conditions for a group of rows.
- Retrieves the result set based on aggregate function.

ORDER BY clause

- Used to sort the records in ascending order or descending order.
- Sorts the data in ascending order by default.

MySQL GROUP BY Clause

Used for the purpose of categorizing all rows that have the same values.

Can be combined with functions - known as aggregate functions

Aggregate functions:

COUNT Function

SUM Function

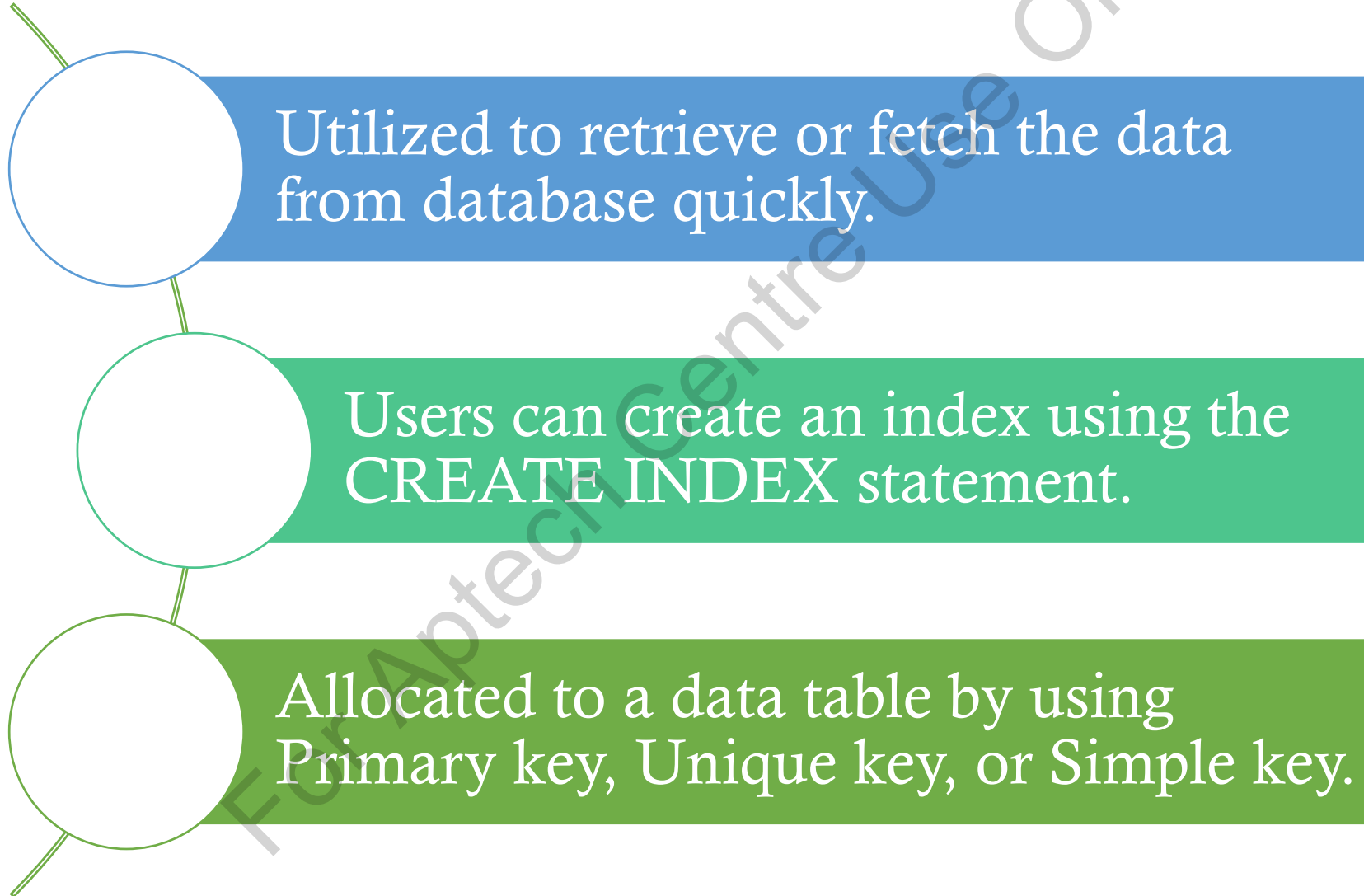MIN Function

MAX Function

AVG Function

ROLLUP Modifier

Used with GROUP BY clause and provides summary output by including extra rows.

Can build up multiple groups of rows by using one single query.

User must have prior knowledge of grouping of set.

Indexes in MySQL

Utilized to retrieve or fetch the data from database quickly.

Users can create an index using the CREATE INDEX statement.

Allocated to a data table by using Primary key, Unique key, or Simple key.

Reasons to Add an Index

Faster retrieval of data

To represent NULL values

Fetch specific values from columns quickly

Avoid searching every row

Optimize the performance of the database

When to Use Index

When columns have too many values

When there are many NULL values

When the columns are fetched frequently

When the table data is large

When Not to Use Index

When the table is small

When the column is used rarely to retrieve the data

When the table is non-updated

MySQL CREATE INDEX Statement

An index can be built using the CREATE INDEX statement

- Syntax

```
CREATE INDEX Index_name on Table_name(Column 1, Column 2,…)
```

MySQL Drop Index

DROP INDEX is used with ALTER TABLE command

Using the DROP PRIMARY KEY command it is possible to drop the primary key index

- Syntax

```
ALTER TABLE table_name DROP INDEX index_name;
```

Summary

- MYSQL clauses are set of rules to understand the concepts.
- An index in MySQL helps in improving the speed of operations in a table.
- The ASC attribute is used to sort data in the ascending order.
- ALTER TABLE is used to drop primary from a table in a database.
- INDEX command is used to retrieve the data from database quickly.
- SHOW INDEX is used to get index information of the table.
- The GROUP BY clause is utilized to combine the rows with exact same values.
- The ROLLUP Modifier in MySQL is utilized to include extra rows as part of summary output.