

**WEEK 9**

# Basic Formatting Functions, and Keywords

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# String Functions - LOWER()

- Use: Converts all characters in a string to lowercase.
- Application: Standardizing usernames for login purposes.
- SQL Syntax:

```
SELECT LOWER(column_name) AS formatted_data  
FROM your_table;
```

# String Functions - UPPER()

- **Use:** Converts all characters in a string to uppercase.
- **Application:** Converting product names to uppercase for a catalog.
- **SQL Syntax:**

```
SELECT UPPER(column_name) AS formatted_data  
FROM your_table;
```

# Numeric Functions - FLOOR()

**Use:** Rounds a number down to the nearest whole number.

**Application:** Calculating whole items needed based on fractional quantities.

**SQL Syntax:**

```
SELECT FLOOR(numeric_column) AS rounded_down_value  
FROM your_table;
```

# Numeric Functions - ROUND()

**Use:** Rounds a number to a specified number of decimal places.

**Application:** Rounding currency values to two decimal places.

**SQL Syntax:**

```
SELECT ROUND(numeric_column, decimal_places) AS rounded  
FROM your_table;
```

**Note:** Syntax may vary across SQL platforms.

# Datetime Functions

- **DAY()**

- **Use:** Extracts the day of the month from a date.
- **Application:** Retrieves day as an integer (1-31).
- **Example:** If date is 2024-09-16, DAY() returns 16.

- **TIME()**

- **Use:** Extracts the time part from a datetime value.
- **Application:** Returns time in HH:MM:SS format.
- **Example:** If datetime is 2024-09-16 14:30:45, TIME() returns 14:30:45.

# Datetime Functions

- **MONTH()**

- **Use:** Extracts the month from a date.
- **Application:** Retrieves month as an integer (1-12).
- **Example:** If date is 2024-09-16, MONTH() returns 9.

- **YEAR()**

- **Use:** Extracts the year from a date.
- **Application:** Retrieves year as a four-digit integer.
- **Example:** If date is 2024-09-16, YEAR() returns 2024.



# Datetime Functions

- **TIMESTAMP()**

- **Use:** Represents a specific point in time (date and time combined).
- **Application:** Stores current or specific datetime values.
- **Example:** If current datetime is 2024-09-16 14:30:45, `TIMESTAMP()` returns 2024-09-16 14:30:45.

- **DATE()**

- **Use:** Extracts the date part from a datetime value.
- **Application:** Returns date in YYYY-MM-DD format.
- **Example:** If datetime is 2024-09-16 14:30:45, `DATE()` returns 2024-09-16.

# Recap and Next Steps

## Key Takeaways:

- SQL functions are powerful tools for manipulating string, numeric, and datetime values.
- String Functions: LOWER(), UPPER()
- Numeric Functions: FLOOR(), ROUND()
- Datetime Functions: TIME(), DAY(), MONTH(), YEAR(), TIMESTAMP(), DATE()
- Next Steps:
  - Complete Week 13 Quiz