

# 21 DAYS SQL CHALLENGE

CHALLENGE STARTS FROM

3RD NOVEMBER 2025

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#SQLWithIDC

## Day 8 (11/11): String Functions & Case Statement

### 🎯 Objective

To understand and apply SQL **string functions** (UPPER, LOWER, LENGTH, CONCAT, SUBSTRING) and the **CASE statement** to manipulate text data and create conditional output within queries.

### 🔍 Topics Covered

- **UPPER()** - Converts text to uppercase
- **LOWER()** - Converts text to lowercase
- **LENGTH()** - Returns the number of characters in a string
- **CONCAT()** - Joins two or more strings together
- **SUBSTRING()** - Extracts part of a string based on a starting position and length
- **CASE Statement** - Adds conditional logic (IF-ELSE) in SQL queries

## STRING FUNCTIONS

String functions are SQL functions used to **manipulate and work with text data**, such as converting case (uppercase/lowercase), finding length of a string, extracting part of a string, or combining multiple strings

**CONCAT**

Combines multiple strings into one

**UPPER**

Converts all characters to **uppercase**

**LOWER**

Converts all characters to **lowercase**

**LEN**

Counts how many **characters**

**Substring**

Extracts a **part** of string at a specified **position**

## CASE STATEMENT

A CASE statement in SQL is used to apply **conditional logic** inside a query. It works like an ***IF-ELSE*** statement: based on a condition, SQL returns a specific value.

### Syntax :-

```
CASE
  WHEN condition THEN result
  ELSE result
END
```



### SQL Beginner to Advanced For Data...

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Beginners to Advanced SQL



### SQL Bootcamp Playlist (2025) - Zero to Hero

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- ▶ CodeEra **25-String Functions in SQL | Types of SQL Functions | Examp...**
- ▶ Data with Baraa **SQL String Functions - Manipulate String Values - SQL Tutori...**
- ▶ Neso Academy **CASE Expression in SQL**

## Practice Questions:

```
1  -- Convert all patient names to uppercase.
2  • SELECT
3      UPPER(name) AS patient_name
4  FROM patients;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	patient_name				
▶	LARRY DIXON				
	VICTOR TAYLOR				
	AMBER OBRIEN				
	VICTORIA LARSON				
	COREY WHITAKER				
	THOMAS ATKINS				
	STEVEN HOWARD				
	CHRIS VELAZQUEZ				
	ANGELA LIN				
	MELISSA MCFARLAND				
	JORDAN WILLIAMS				
	MICHELLE DAVIS DVM				
	DEAN DONOVAN				
	GEORGE HARPER				
	MICHAEL WANG				
	SCOTT ALEXANDER				
	JAKE SHAW				
	BRADLEY JOHNSON ...				
	ALEXANDER GOMEZ				
	DONALD MEDINA				

- **UPPER(name)** → converts each patient's name to uppercase.
- **AS patient\_name** → renames the output column to patient\_name.
- **FROM patients** → retrieves data from the patients table.



## Practice Questions:

```
6  -- Find the length of each staff member's name.
7 • SELECT
8      staff_name,
9      LENGTH(staff_name) AS staff_name_length
10 FROM staff;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
staff_name	staff_name_length		
▶ Steve Sanchez	13		
John Pierce	11		
Denise Jacobs	13		
Sharon Cochran	14		
Noah Rhodes	11		
Richard Rodriguez	17		
William Herrera	15		
Ryan Munoz	10		
Rebecca Henderson	17		
Mike Allen	10		
Cristian Santos	15		
Dylan Miller	12		

- **staff\_name** → selects each staff member's name.
- **LENGTH(staff\_name)** → calculates the number of characters in each name.
- **AS staff\_name\_length** → renames the output column for clarity.
- **FROM staff** → retrieves data from the staff table.

## Practice Questions:

```
12  -- Concatenate staff_id and staff_name with a hyphen separator
13 • SELECT
14      CONCAT(staff_id, ' - ', staff_name) AS staff_details
15  FROM staff;
```

Result Grid	
Filter Rows:	Export:   Wrap Cell Content:
staff_details	
▶	STF-00b6381d - Steve Sanchez
	STF-00fbd582 - John Pierce
	STF-0196d344 - Denise Jacobs
	STF-021fdf9f - Sharon Cochran
	STF-02ae59ca - Noah Rhodes
	STF-052894a3 - Richard Rodriguez
	STF-05591498 - William Herrera
	STF-094f410b - Ryan Munoz
	STF-0aaed714 - Rebecca Henderson
	STF-0b0dfb38 - Mike Allen
	STF-107a58e4 - Cristian Santos

- **CONCAT(staff\_id, ' - ', staff\_name)** → joins the staff ID and name with a hyphen and space in between.
- **AS staff\_details** → renames the output column to staff\_details.
- **FROM staff** → retrieves data from the staff table.



## Daily Challenge:

```
1  -- Create a patient summary that shows
2  -- patient_id, full name in uppercase, service in lowercase, age category
3  -- (if age >= 65 then 'Senior', if age >= 18 then 'Adult', else 'Minor'),
4  -- and name length.
5  -- Only show patients whose name length is greater than 10 characters.
6
7 • SELECT
8     patient_id,
9     UPPER(name) AS patient_name,
10    LOWER(service) AS service,
11    CASE
12        WHEN age >= 65 THEN 'Senior'
13        WHEN age >= 18 THEN 'Adult'
14        ELSE 'Minor'
15    END AS age_category,
16    LENGTH(name) AS patient_name_length
17 FROM patients
18 WHERE LENGTH(name) > 10;
```

## Daily Challenge Query Solution:

	patient_id	patient_name	service	age_category	patient_name_length
▶	PAT-003ce690	LARRY DIXON	icu	Adult	11
	PAT-00883d3c	VICTOR TAYLOR	icu	Minor	13
	PAT-00b64d32	AMBER OBRIEN	general_medicine	Minor	12
	PAT-029113eb	VICTORIA LARSON	surgery	Senior	15
	PAT-02ae68da	COREY WHITAKER	icu	Adult	14
	PAT-02f2e75d	THOMAS ATKINS	emergency	Senior	13
	PAT-0307a640	STEVEN HOWARD	general_medicine	Minor	13
	PAT-030f2b7d	CHRIS VELAZQUEZ	icu	Adult	15
	PAT-03a1bd78	MELISSA MCFARLAND	emergency	Minor	17
	PAT-03ae75aa	JORDAN WILLIAMS	surgery	Adult	15
	PAT-03d0b953	MICHELLE DAVIS DVM	emergency	Senior	18
	PAT-03f5abbe	DEAN DONOVAN	surgery	Minor	12
	PAT-044a304c	GEORGE HARPER	surgery	Senior	13
	PAT-0477a000	MICHAEL WANG	emergency	Minor	12
	PAT-04866ac6	SCOTT ALEXANDER	surgery	Adult	15
	PAT-04be60be	BRADLEY JOHNSON ...	general_medicine	Senior	19
	PAT-06a8ea25	ALEXANDER GOMEZ	emergency	Senior	15
	PAT-06d975bc	DONALD MEDINA	general_medicine	Adult	13
	PAT-07a9ee88	MICHAEL MORRISON	surgery	Minor	16
	PAT-07c275e3	ROBERT JACKSON	emergency	Adult	14

- **UPPER(name)** → converts patient name to uppercase.
- **LOWER(service)** → converts service name to lowercase.
- **CASE** → classifies patients by age:  
 ≥ 65 → Senior , ≥ 18 → Adult , otherwise → Minor.
- **LENGTH(name)** → calculates name length.
- **WHERE LENGTH(name) > 10** → filters patients with names longer than 10 characters.