

# Reporting with SQL Part 2 Notes

Team Treehouse

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## 1 What Are Functions?

- Presents data differently through manipulation
- **Syntax:** *function name(value or column)*
- e.g. LENGTH(), UPPER("Andrew Chalkley"), SUM()

## 2 Adding Text Columns Together

- **Syntax:** *SELECT value or column || value or column || value or column FROM table name;*
- `||` → concat operator

### Example:

```
1 SELECT first_name || " " || last_name AS "Full Name",  
2        email AS "Email", phone AS "Phone"  
3 FROM customers;  
4
```

Full Name	Email	Phone
Lauren Chalkley	Lauren.Chalkley@example.com	(601)-555-8510
Dave McFarland	Dave.McFarland@example.com	(675)-555-4108
Pasan Premaratne	pdawg@example.com	(898)-555-3719
Andrew Chalkley	Andrew@teamtreehouse.com	(798)-555-8112
Rachael Hinkley	Rachael.Hinkley@example.com	(645)-555-2397

### 3 Single vs Double Quotes

- Exists difference in use
- Single Quote → for string literals (e.g. 'lbs')
- Double Quote → for column aliases (e.g. "Max Weight")

#### Example:

```
1 SELECT maximum_weight || 'lbs' AS "Max Weight" FROM ELEVATOR_DATA;  
2
```

### 4 Exercise 1

- Solution included in *exercise\_1.sql*

### 5 Finding the Length of Text

- **Syntax:** SELECT LENGTH(*value or column*) FROM *table name*;
- Returns length of a value or value in each row of a column
- Can also be used in WHERE
  - **Syntax:** SELECT *columns* FROM *table name* WHERE LENGTH(*column name*) *operator value*;

#### Example:

```
1 SELECT username, LENGTH(username) AS "length" from customers ORDER  
2 BY length DESC LIMIT 1;  
3  
4 SELECT username FROM customers WHERE LENGTH(username) < 7;  
5  
6  
7 SELECT username LENGTH(username) AS "length" FROM customers WHERE  
8 length < 7;
```

username	length
poley_hands	11

## 6 Exercise 2

- Solution included in *exercise\_2.sql*

## 7 Changing the Case of Text Columns

- **Syntax (Upper):** `SELECT UPPER(value or column) FROM table name;`
- **Syntax (Lower):** `SELECT LOWER(value or column) FROM table name;`
- Returns values in a column in upper or lower case
- Search can be made case insensitive
  - `SELECT column FROM table name WHERE LOWER(column name) = value in lowercase;`

### Example:

```
1 SELECT * FROM customers WHERE LOWER(email) = "andrew@teamtreehouse
2 .com";
```

## 8 Exercise 3

- Solution included in *exercise\_3.sql*

## 9 Creating Excerpts From Text

- SUBSTR
  - **Syntax:** `SELECT SUBSTR( value or column, start, length) FROM table name;`
  - Allows to create ellipsis
    - \* Prevents website from being overloaded with details

### Example:

```
1  SELECT name SUBSTR(description, 1, 50) || "..." AS  
   short_description, price FROM products;  
2
```

## 10 Exercise 4

- Solution included in *exercise\_4.sql*

## 11 Replacing Portions of Text

- **Syntax:** `SELECT REPLACE(original value or column name, target string, replacement string) FROM table name;`

### Example:

```
1  SELECT street, city REPLACE(state, "California", "CA") zip FROM  
   addresses  
2  WHERE REPLACE(state, "California", "CA") = "CA";  
3
```

## 12 Exercise 5

- Solution included in *exercise\_5.sql*

## 13 Practice Session

## 14 Quiz 1

1. Functions can be joined together. They are applied from inside out.

```
1 SELECT UPPER(LOWER("AWESOME"));  
2
```

What do you think the result of this will be?

- A. AwesomE
- B. awesome
- C. Awesome
- D. AWESOME

**Answer: D**

- 2.