SQL Expressions

Introduction to SQL expressions

In programming, expressions are anything that when calculated, result in a value. For instance, 1 + 1 = 2 is an example of an expression. Expressions in SQL work similarly. Consider the following data that could appear in the employees table:

employeeid	firstname	lastname
1	Wally	Smith
2	Wilbur	Walters
3	Tina	Stephenson
4	Agnes	Garcia

SQL Expressions

Introduction to SQL expressions

In the previous example you could use a simple SELECT statement to display the information exactly as it appears in the preceding table, or you could write an expression that appends the firstname and lastname fields together. The query would look like this:

```
SELECT employeeid, firstname & lastname AS name FROM employees
```

Notice the & operator (covered in the next lecture). The & operator is used to concatenate (join) two fields into

employeeid	name
1	WallySmith
2	WilburWalters
3	TinaStephenson
4	AgnesGarcia

SQL Expressions

Introduction to SQL expressions

Notice that there is no space between the first and last names. To add a space, you need to add a literal string value as follows:

```
SELECT employeeid, firstname & ' ' & lastname AS name FROM employees
```

employeeid	name
1	Wally Smith
2	Wilbur Walters
3	Tina Stephenson
4	Agnes Garcia

SQL Expressions

SQL aliases

You probably also noticed the AS keyword outlined after the lastname field. This allows you to create an **alias**. An alias is used when joining two fields together into one virtual field. The alias is then displayed in the result set.

```
SELECT employeeid, firstname & ' ' & lastname AS name FROM employees
```

Alias Column

employeeid	**name**
1	Wally Smith
2	Wilbur Walters
3	Tina Stephenson
4	Agnes Garcia

SQL Expressions

SQL expressions in MySQL and SQLite

Although the previous examples would work perfectly in some databases, MySQL and SQLite used different methods:

MySQL

```
SELECT employeeid, CONCAT(firstname,' ',lastname) AS name FROM employees
```

SQLite

```
SELECT employeeid, firstname || ' ' || lastname AS name FROM employees
```