

SQL Basics Part 3 Notes

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1 Searching Tables with 'WHERE'

- WHERE clause
 - **Syntax:** *SELECT columns FROM table name WHERE condition;*
 - **Syntax (Condition):** *Columns Operator Value*
- Equality Operator
 - **Syntax:** *SELECT columns FROM table name WHERE column name = value;*

Examples:

```
1  SELECT * FROM contacts WHERE first_name = "Andrew";
2
3
4  SELECT first_name, email FROM users WHERE last_name = "Chalkley";
5
6
7  SELECT name AS "Product Name" FROM products WHERE stock_count = 0;
8
9
10 SELECT title "Book Title" FROM books WHERE year_published = 1999;
11
```

- Inequality Operator
 - **Syntax:** *SELECT columns FROM table name WHERE column name != value;*

Examples:

```
1  SELECT * FROM contacts WHERE first_name != "Kenneth";
2
3
4  SELECT first_name, email FROM users WHERE last_name != "L:one";
5
6
7  SELECT name AS "Product Name" FROM products WHERE stock_count !=
8  0;
9
10 SELECT title "Book Title" FROM books WHERE year_published != 2015;
11
```

- Greater than/ Less than Operator
 - **Syntax (less than):** `SELECT columns FROM table name WHERE column name < value;`
 - **Syntax (greater than):** `SELECT columns FROM table name WHERE column name > value;`
- Cheat Sheet: [Link](#)

2 Exercise 1

- Solution included in `exercise_1.sql`

3 Filtering by Comparing Values

- **Syntax (Less than):** `SELECT columns FROM table name WHERE column name < value;`
- **Syntax (Less than or equal):** `SELECT columns FROM table name WHERE column name <= value;`
- **Syntax (Greater than):** `SELECT columns FROM table name WHERE column name > value;`
- **Syntax (Greater than or equal):** `SELECT columns FROM table name WHERE column name >= value;`

Example:

```
1  SELECT first_name, last_name FROM users WHERE date_of_birth < '
2  1998-12-01';
3
4  SELECT title AS "Book Title", author AS Author FROM books WHERE
5  year_released <= 2015;
6
7  SELECT name, description FROM products WHERE price > 9.99;
8
9
10 SELECT title FROM movies WHERE release_year >= 2000;
11
```

4 Exercise 2

- Solution included in *exercise_2.sql*

5 Filtering on More than One Condition

- Is used when filtering with multiple conditions
- Can be done using *AND* and/or *OR* operator
- **Syntax (AND):** `SELECT columns FROM table name WHERE (condition 1) AND (condition 2) ...;`
- **Syntax (OR):** `SELECT columns FROM table name WHERE (condition 1) OR (condition 2) ...;`

Examples:

```
1  SELECT username FROM users WHERE last_name = "Chalkley" AND
2  first_name = "Andrew";
3
4  SELECT * FROM products WHERE category = "Games Consoles" AND price
5  < 400;
6
7  SELECT * FROM movies WHERE title = "The Matrix" OR title = "The
8  Matrix Reloaded" OR title = "The Matrix Revolutions";
```

```
9
10  SELECT country FROM countries WHERE population < 1000000 OR
11  population > 100000000;
```

6 Exercise 3

- Solution included in *exercise_3.sql*

7 Filtering By Dates

- Is done using comparison operators (same as part 3).
- **Syntax (Less than):** `SELECT columns FROM table name WHERE column name < value;`
- **Syntax (Less than or equal):** `SELECT columns FROM table name WHERE column name <= value;`
- **Syntax (Greater than):** `SELECT columns FROM table name WHERE column name > value;`
- **Syntax (Greater than or equal):** `SELECT columns FROM table name WHERE column name >= value;`

Examples:

```
1  SELECT first_name, last_name FROM users WHERE date_of_birth < '
2  1998-12-01';
3
4  SELECT title AS "Book Title", author AS Author FROM books WHERE
5  year_released <= 2015;
6
7  SELECT name, description FROM products WHERE price > 9.99;
8
9
10 SELECT title FROM movies WHERE release_year >= 2000;
11
```

8 Exercise 4

- Solution included in *exercise_4.sql*

9 Searching Within a Set of Values

- Returns results with matching sets of values in a columns
- Is similar to Python's *x in [Value1, value2,]*
- **Syntax:** `SELECT columns FROM table name WHERE column name IN (value 1, value 2, ...);`
- **Syntax (Negation):** `SELECT columns FROM table name WHERE column name NOT IN (value 1, value 2, ...);`

Examples:

```
1  SELECT name FROM islands WHERE id IN (4, 8, 15, 16, 23, 42);
2
3
4  SELECT * FROM products WHERE category IN ("eBooks", "Books", "
   Comics");
5
6
7  SELECT title FROM courses WHERE topic IN ("JavaScript", "Databases
   ", "CSS");
8
9
10 SELECT * FROM campaigns WHERE medium IN ("email", "blog", "ppc");
11
12
13 SELECT * FROM products WHERE category NOT IN ("Electronics");
14
15
16 SELECT title FROM courses WHERE topic NOT IN ("SQL", "NoSQL");
17
```

10 Exercise 5

- Solution included in *exercise_5.sql*

11 Searching Within a Range of Values

- Returns results between *lesser value* and *greater value*
- **Syntax:** `SELECT columns FROM table name WHERE column name BETWEEN lesser value AND greater value;`

Examples:

```
1  SELECT * FROM movies WHERE release_year BETWEEN 2000 AND 2010;
2
3
4  SELECT name, description FROM products WHERE price BETWEEN 9.99
   AND 19.99;
5
6
7  SELECT name, appointment_date FROM appointments WHERE
   appointment_date BETWEEN "2015-01-01" AND "2015-01-07";
8
```

12 Exercise 6

- Solution included in *exercise_6.sql*