

Filtering Results with the WHERE Clause



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WHERE

Constrains the result set

Comes after the FROM clause

Contains boolean expressions

Only matching rows are in the result set

```
SELECT p.last_name  
FROM person p;  
WHERE p.first_name = 'Jon'
```



What is the last name of all the people I know whose first name is Jon?

- ◀ **SELECT CLAUSE**
- ◀ **FROM CLAUSE**
- ◀ **WHERE CLAUSE**

Boolean Operators

Operator

=	Equals	True if values on both sides are equal
<>	Not Equal TO	True if value on both sides are not equal
>	Greater Than	True if left side is larger than right side
<	Less Than	True if left side is smaller than right side
>=	Greater or Equal	True if left side is larger or equal to right
<=	Less Than or Equal	True if left side is smaller or equal to right

A Single
Expression is
Quite Limiting

We'd like to ask more complex questions

Additional keywords are needed

These can chain multiple expressions

AND

Combines two expressions

If both are TRUE, row is included

If either is FALSE, row is excluded



Who are all the people in my contact list that have the first name Jon and have a birthday later than 1965?

```
SELECT p.first_name,  
p.last_name  
FROM person p  
WHERE p.first_name = 'Jon'  
AND p.birthdate >  
'12/31/1965';
```

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **AND**

OR

Also combines two expressions

If either are TRUE, row is included

If both are FALSE, row is excluded



Who are all the people in my contact list that have the first name Jon or a last name of Flanders?

```
SELECT p.first_name,  
       p.last_name  
FROM person p  
  
WHERE p.first_name = 'Jon'  
OR p.last_name = 'Flanders';
```

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **OR**

Other Operators

BETWEEN

LIKE

IN

IS

IS NOT

BETWEEN

Acts on column and two values

TRUE if column value is between two values

Inclusive - includes two values (like \geq & \leq)



Who are all the people in my contact list that I have contacted at least once but no more than 20 times?

```
SELECT p.first_name,  
p.last_name  
FROM person p
```

```
WHERE p.contacted  
BETWEEN 1 AND 20;
```

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **BETWEEN**

LIKE

A more fuzzy version of =

String with special characters inside

If the match is true, the row is returned



Who are all the people in my contact list that have a first name that begins with the letter J?

```
SELECT p.first_name,  
p.last_name  
FROM person p  
  
WHERE p.first_name  
LIKE 'J%';
```

- ◀ **SELECT CLAUSE**
- ◀ **FROM CLAUSE**
- ◀ **WHERE CLAUSE**
- ◀ **LIKE**

IN

Like a multi-value = operator

List of potential values

True if any of the values in the list “hit”



Who are all the people in my contact list that are named Jon or Fritz?

```
SELECT p.first_name,  
       p.last_name  
FROM person p  
WHERE p.first_name  
IN ('Jon', 'Fritz');
```

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **IN**

IS

Special operator

Like a equals operator

But just for values that might be NULL

```
SELECT p.first_name,  
p.last_name  
FROM person p  
  
WHERE p.last_name  
IS NULL;
```



Who are all the people in my contact list that don't have a last name?

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **IS**

IS NOT

Also just for NULL

Like a “NOT EQUALS” operator



Who are all the people in my contact list that have a last name?

```
SELECT p.first_name,  
p.last_name  
FROM person p  
  
WHERE p.last_name  
IS NOT NULL;
```

◀ **SELECT CLAUSE**

◀ **FROM CLAUSE**

◀ **WHERE CLAUSE**

◀ **IS NOT**

Summary

The WHERE clause enables us to restrict the result set of our queries

The more complex the question we want to ask, the more complex the WHERE clause becomes