

Notes on SQL:

Lets say I have a table named inven that has the following layout:

Name of field	Type	Size
itemno	short text	5
itemname	short text	25
dept	short text	2
price	number	double
onhand	number	integer
onorder	number	integer
reorderpoint	number	integer

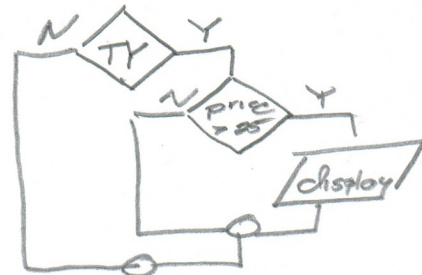
When I want to write SQL, I go into the SQL part of Access and I can write the SQL. Below are some examples.

If I want all items that are in dept TY and have a price > 25, I would write.

```

select itemno, itemname, dept, price
from inven
where dept = 'TY' and price > 25.

```



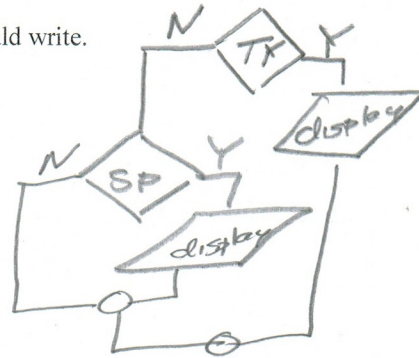
Notice that I included itemno and itemname to help me figure out which items meet the criteria. These two things both have to be true so they are in an AND relationship.

If I want all items that are in dept TY or dept SP, I would write.

```

select itemno, itemname, dept
from inven
where dept = 'TY' or dept = 'SP';

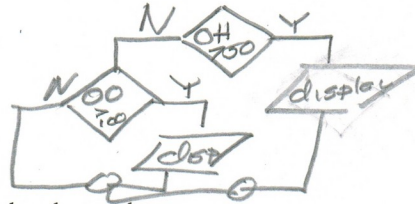
```



I could have added other fields to the select if I wanted more information about the items.

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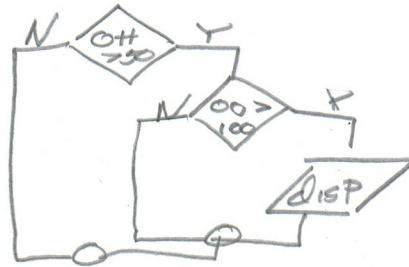
Now I want to write a query using SQL that will look for  $onhand > 50$  or  $onorder > 100$ .



```
select itemno, itemname, onhand, onorder
from inven
where onhand > 50 or onorder > 100;
```

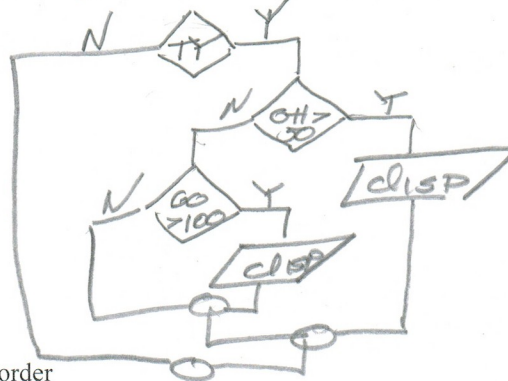
Note: in flowchart I use OH & OO.

If I had wanted both  $onhand > 50$  and  $onorder > 100$  then I would write.



```
select itemno, itemname, onhand, onorder
from inven
where onhand > 50 and onorder > 100;
```

Now lets say we want all items in dept TY and they have either  $onhand > 50$  or  $onorder > 100$ .



```
select itemno, itemname, dept, onhand, onorder
from inven
where dept = 'TY' and (onhand > 50 or onorder > 100);
```

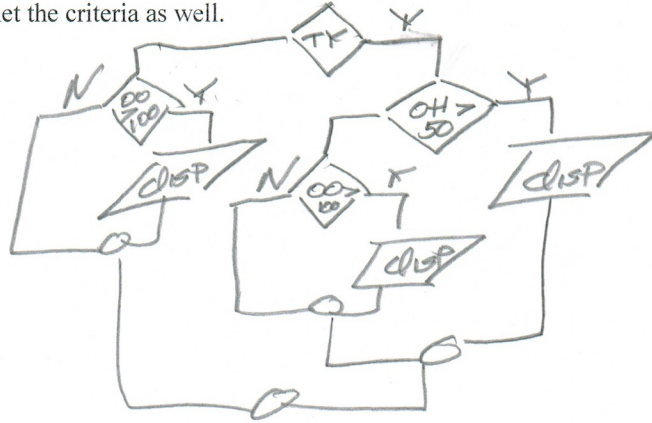
Remember I wanted all the items I displayed to have a dept of TY and also have either of two other conditions. So dept must be TY and either onhand must be greater than 50 or onorder greater than 100.

Notice the parenthesis. In the order of operation ANDs are resolved before ORs. So if I wrote this without the parenthesis I would get different results.

```
select itemno, itemname, dept, onhand, onorder
from inven
where dept = 'TY' and onhand > 50 or onorder > 100;
```

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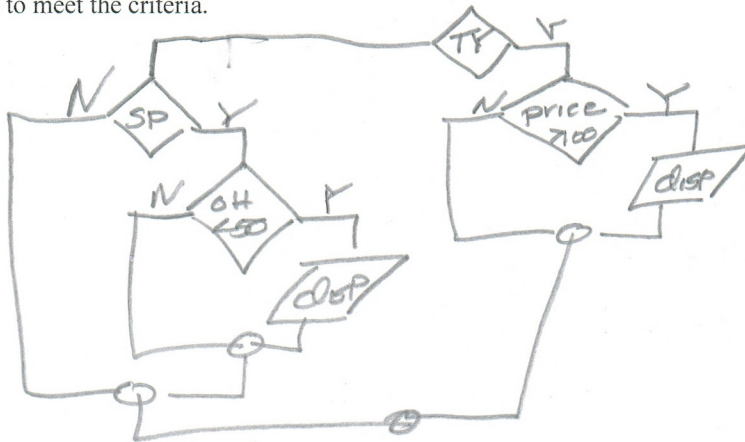
This means that dept = 'TY' and onhand > 50 both have to be true to meet the criteria OR if they are not both true we can check for onorder > 100. If onorder > 100 then we have met the criteria as well.



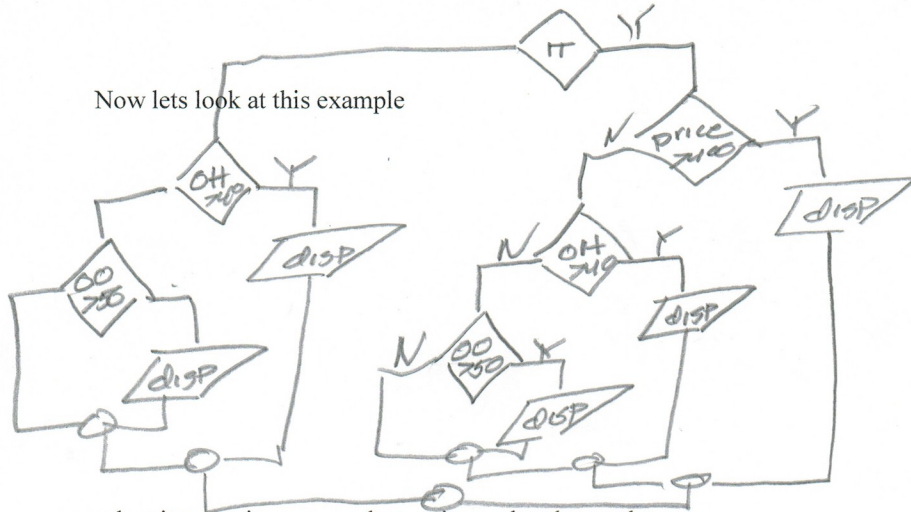
So the parenthesis changed things and we then said either of the things in the parenthesis have to be true AND also the dept absolutely has to be TY.

Now lets look at another example. We want the dept = 'TY' and price < 100 OR we want the dept = 'SP' and onhand < 50.

So since ANDs are resolved before ORs we combine the dept = 'TY' with the price < 100 and we combine the dept = 'SP' and onhand < 50. The OR tells us that either of these combinations has to be true to meet the criteria.



```
select itemno, itemname, dept, price, onhand
from inven
where dept = 'TY' and price < 100 or dept = 'SP' and onhand < 50;
```

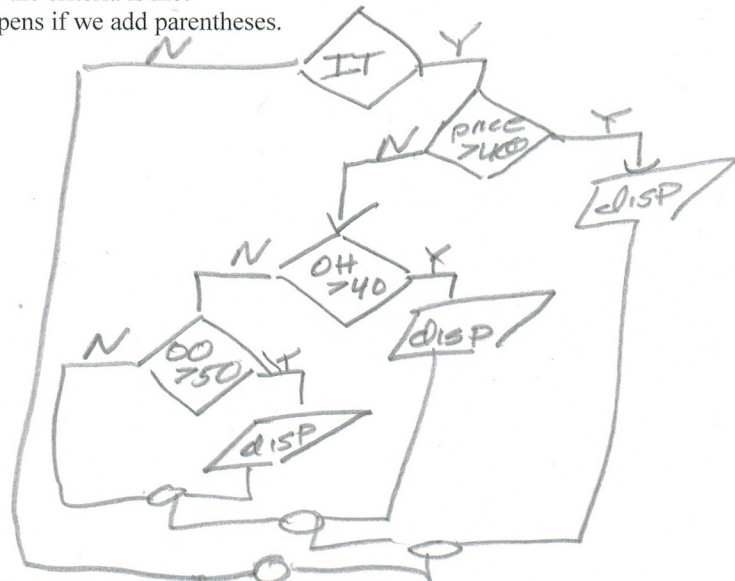


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select itemno, itemname, dept, price, onhand, onorder  
from inven  
where dept = 'IT' and price > 400 or onhand > 40 or onorder > 50;

When we look at the AND and the OR we realize that dept = 'IT' and price > 400 are in an AND relationship so they are combined and the OR onhand > 40 stands alone or the onorder > 50 stands alone. SO we have  
if dept = 'IT' and price > 400 the criteria is met  
OR  
if onhand > 40 the criteria is met.  
OR  
if onorder > 50 the criteria is met  
Now what happens if we add parentheses.



select itemno, itemname, dept, price, onhand, onorder  
from inven  
where dept = 'IT' and (price > 400 or onhand > 40 or onorder > 50);



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This means that dept has to be IT and at least one of the criteria inside the parenthesis has to be true.

SO

if dept = 'IT' and price > 100 the criteria is met

OR

if dept = 'IT' and onhand > 40 the criteria is met

OR

if dept = 'IT' and onorder > 50 the criteria is met

alternative  
from previous  
page

Where dept = "IT" and price > 100 or onhand > 40  
or on order > 50

