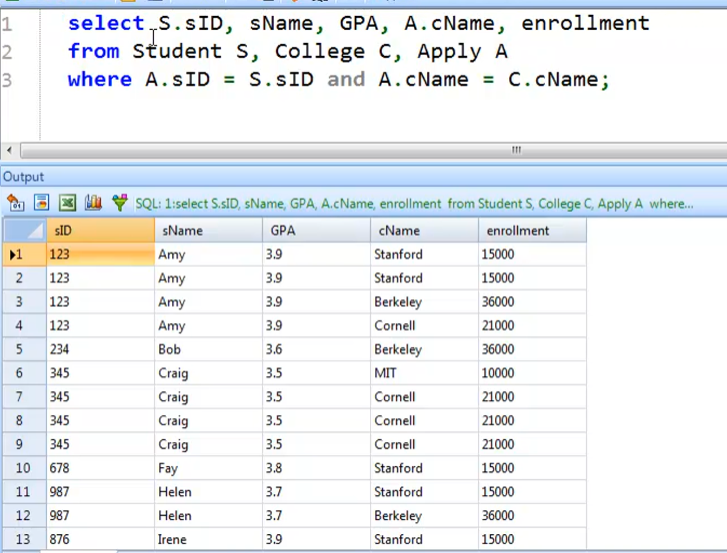
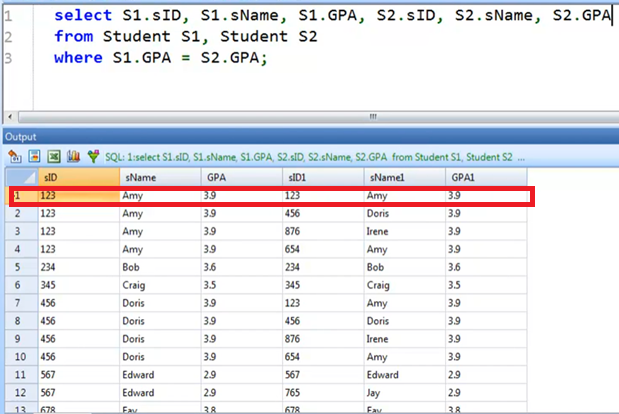
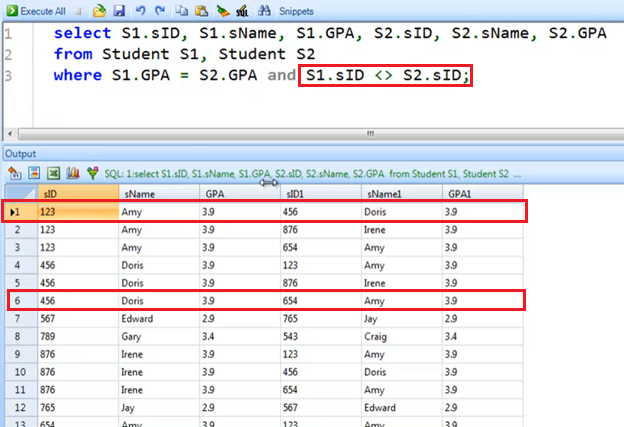


With variables in the tables



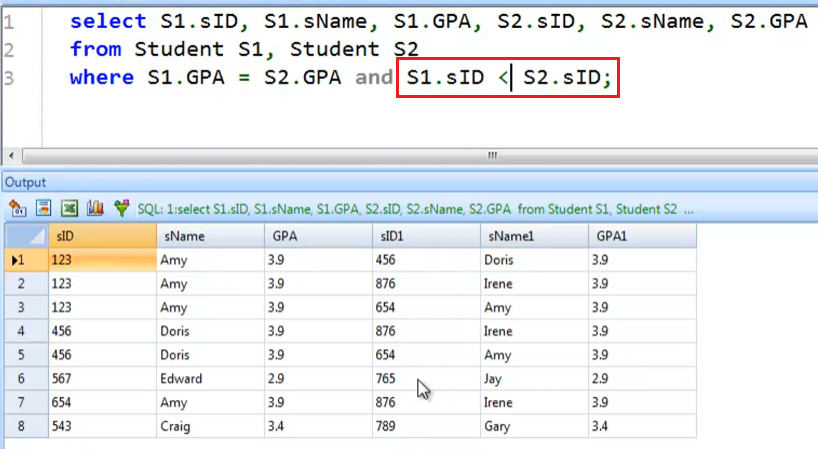


To fix pairing with themselves:



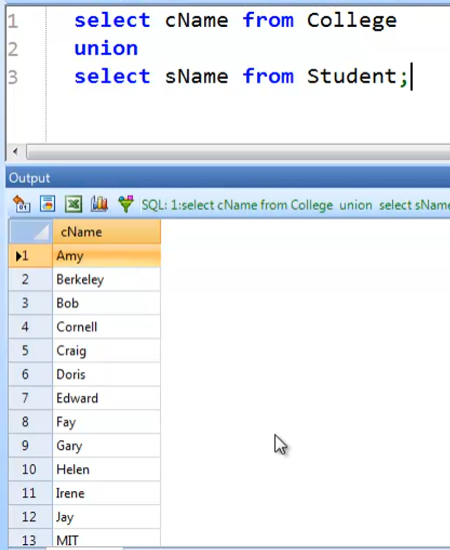
* But we still have redundant pairings

To fix the redundant pairings:

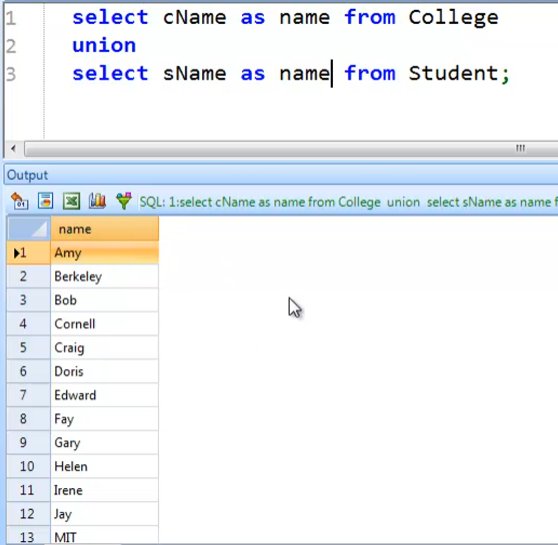


* Smaller SID first

Union Operator

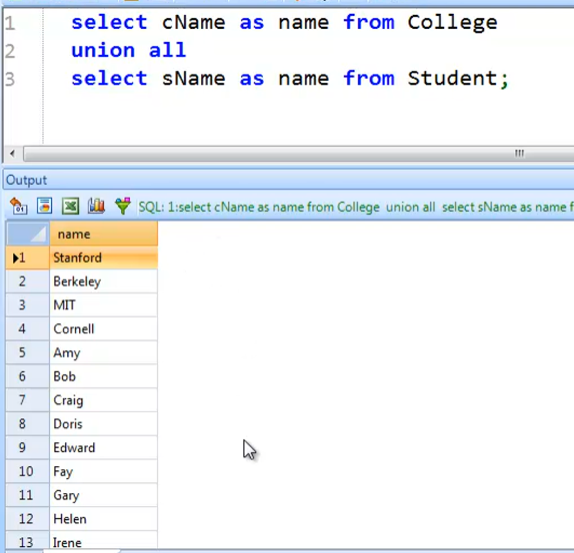


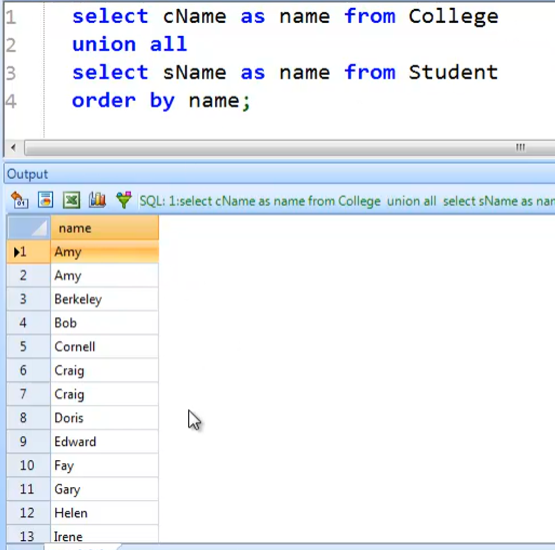
Renaming the result column



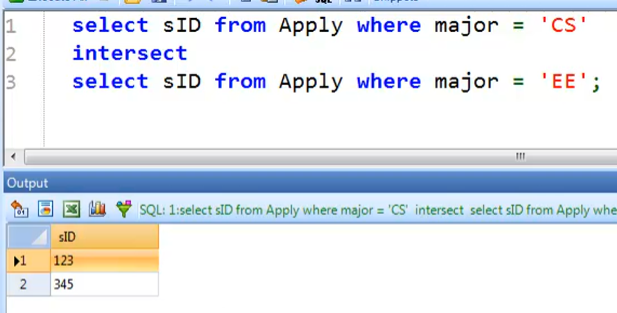
* Eliminates duplicates by **default**!
  + This is the reason why the result looks sorted
  + Because SQLite (DBMS in this example) looks for duplicates by sorting the data
  + It’s not really sorted by default, but it became sorted because of the elimination by default

UNION ALL operator

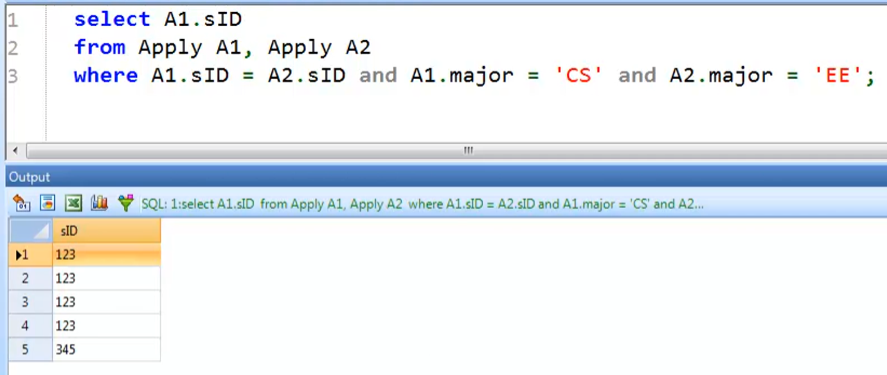


* Unsorted anymore!
* To sort, add order by clause
  + 

INTERSECT operator

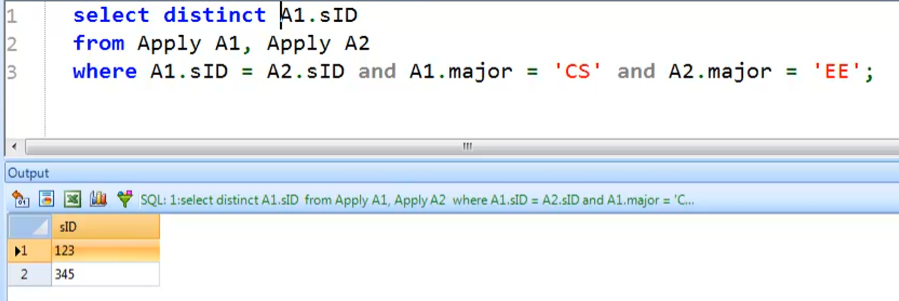


Some DBMS does not support the INTERSECT operator. But we can get the same result using this query:



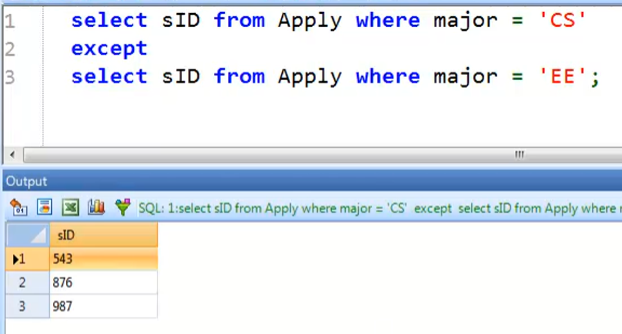
* But this has duplicates!

We just have to add DISTINCT to exactly mirror INTERSECT



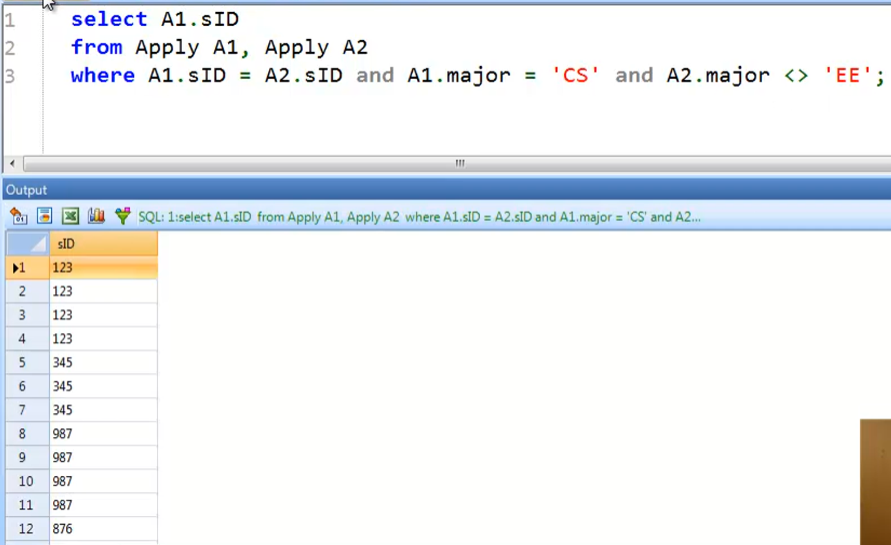
EXCEPT operator

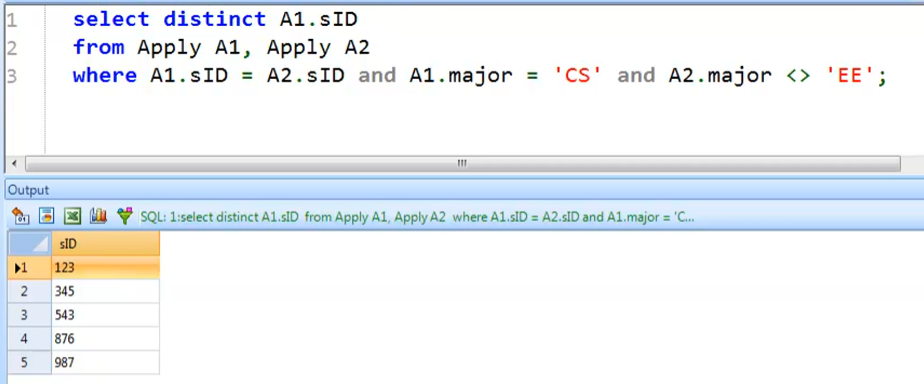
* Difference/minus operator in Relational Algebra



Some DBMS does not support the EXCEPT operator.

First attempt to mirror EXCEPT:





* Not the same!
* We can see in the later lessons on how to mirror it properly!