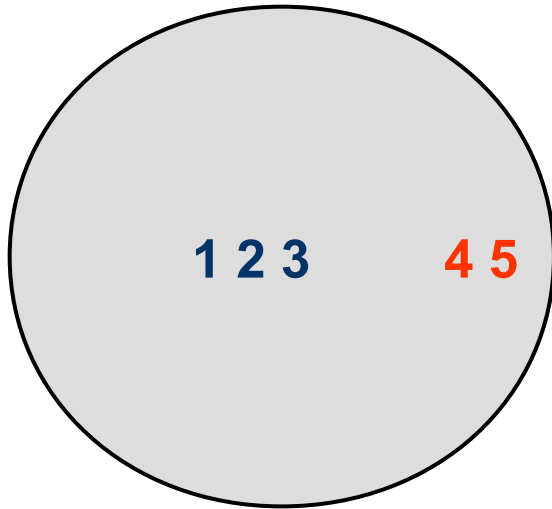


Equivalence example

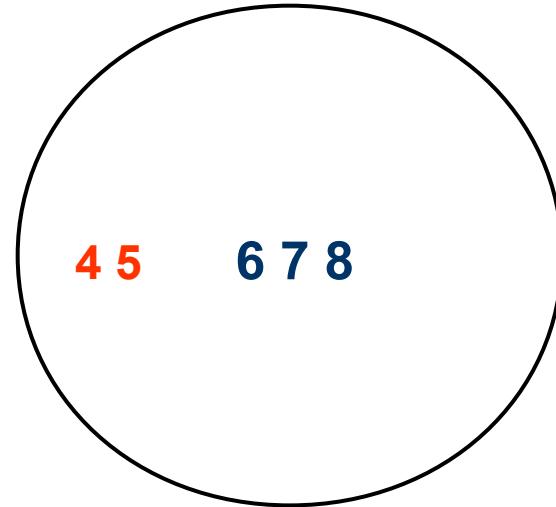
- Relation $R \{ 1 2 3 4 5 \}$
- Relation $S \{ 4 5 6 7 8 \}$
- \cap = intersection

$$R \cap S \Leftrightarrow R - (R - S)$$

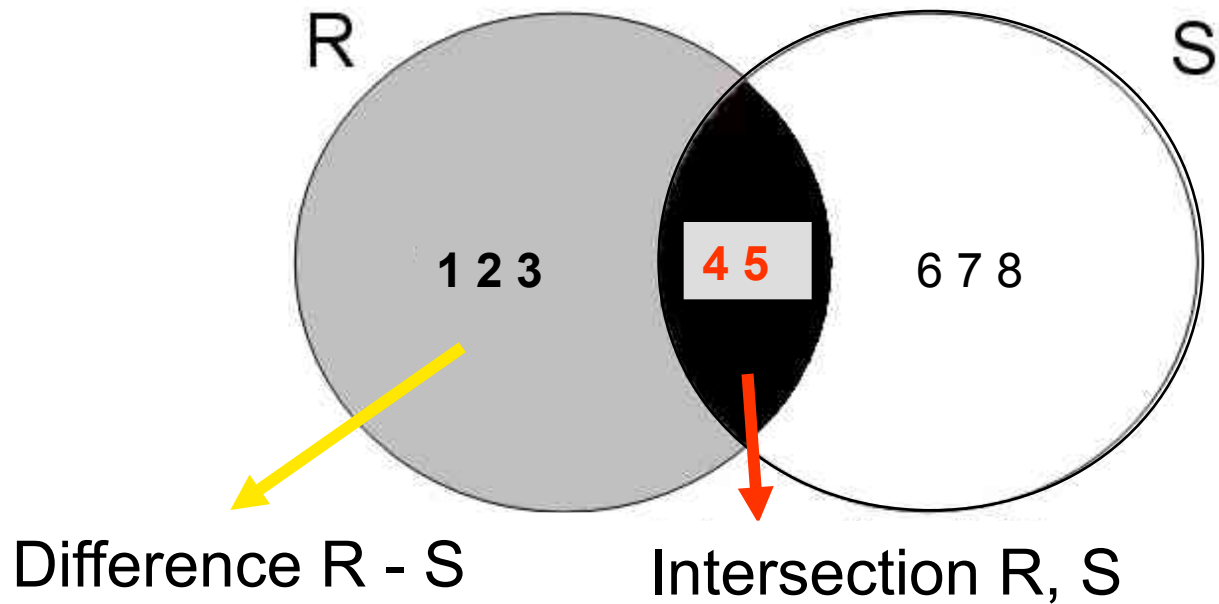
R



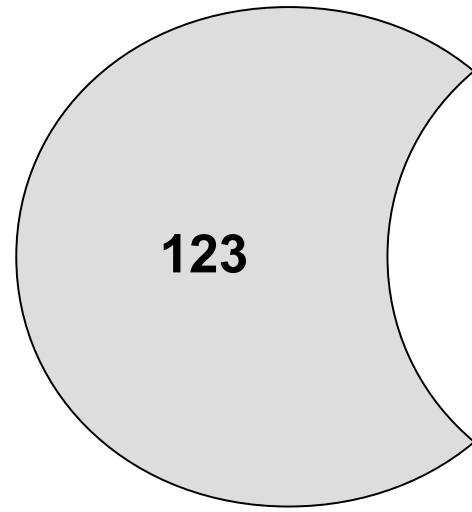
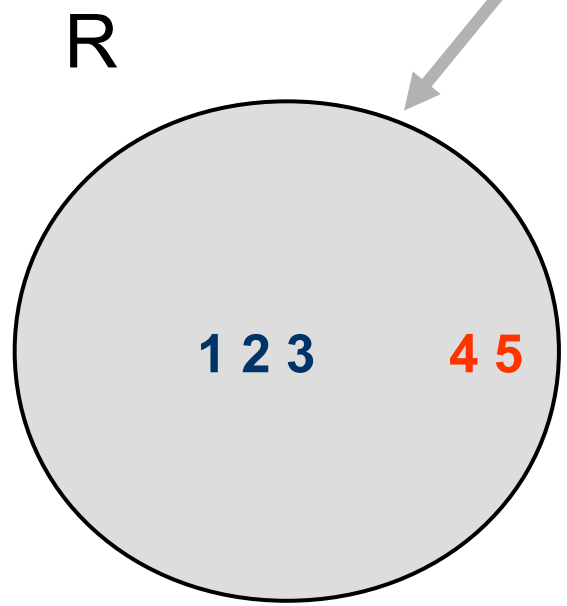
S



$$R \cap S \Leftrightarrow R - (R - S)$$



$$R \cap S \Leftrightarrow R - (R - S)$$

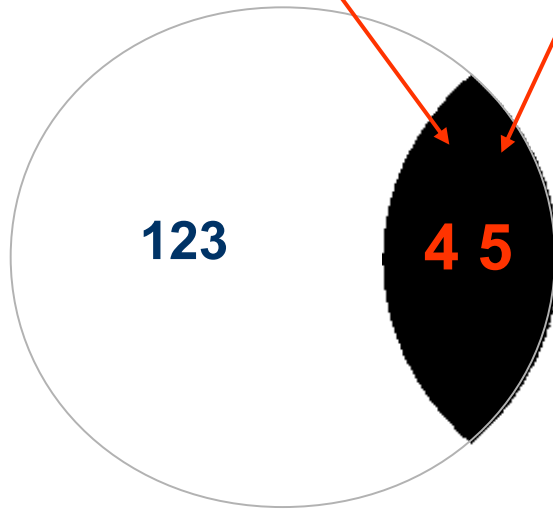


Difference $R - S$

What is the difference between
R and
The difference of $R - S$?



$$\underline{R \cap S} \Leftrightarrow \underline{R - (R - S)}$$



SQL example

After adding David Davis to the DRIVER table (in R, but not S)

```
SELECT name                                -- R - (R - S)
FROM Driver R
WHERE name not in
      (SELECT name                          -- (R - S)
       FROM Driver R
       WHERE name not in
            (SELECT owner                    -- S
             FROM Car S
             WHERE owner is not null))
```