

All the leaves are brown
No brown things are blue
Some leaves are not blue

Not all demons are easy
Some demons are blue
Some demons are easy

Some wines are sour
Not all sour things are sweet
Some wines are not sweet

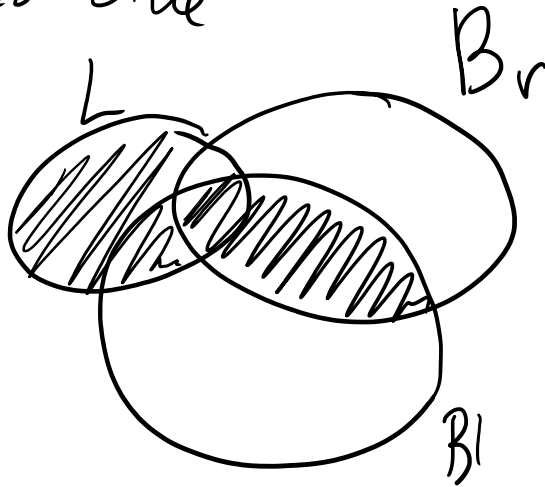
Some bananas are rotten
Some rotten things are not edible
Some bananas are not edible

All the leaves are brown

No brown things are blue

Some leaves are not blue

Brown things are not blue



invalid: there could be no leaves at all.

Some wines are sour

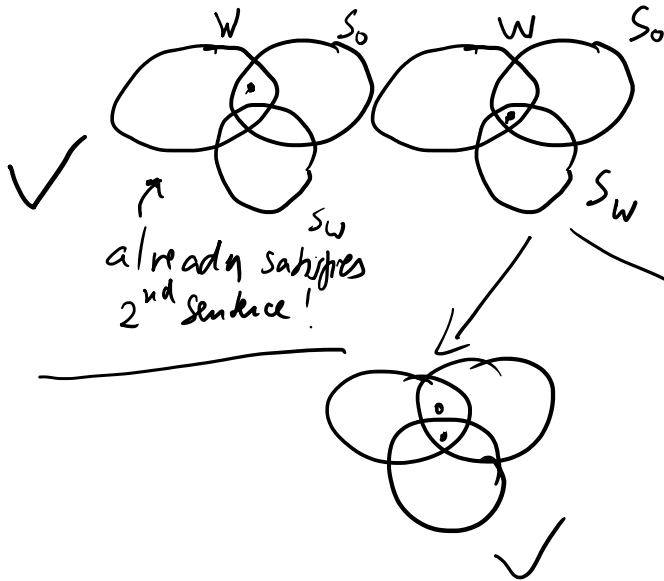
Not all sour things are sweet \leftrightarrow Some sour things are not sweet

Some wines are not sweet

not all A are B

$$\neg \forall x [P(x) \rightarrow Q(x)]$$

$$\exists x [P(x) \wedge \neg Q(x)]$$



already satisfies
2nd sentence!

Conclusion: some wines
are not sweet



Counterexample!

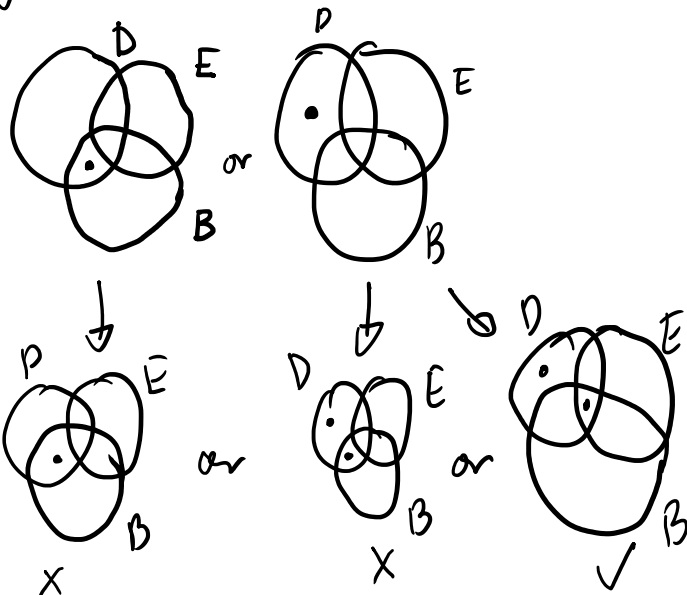
Take a sweet sour wine + something ^{not} sweet, sour
not-wine.

(so conclusion is invalid)

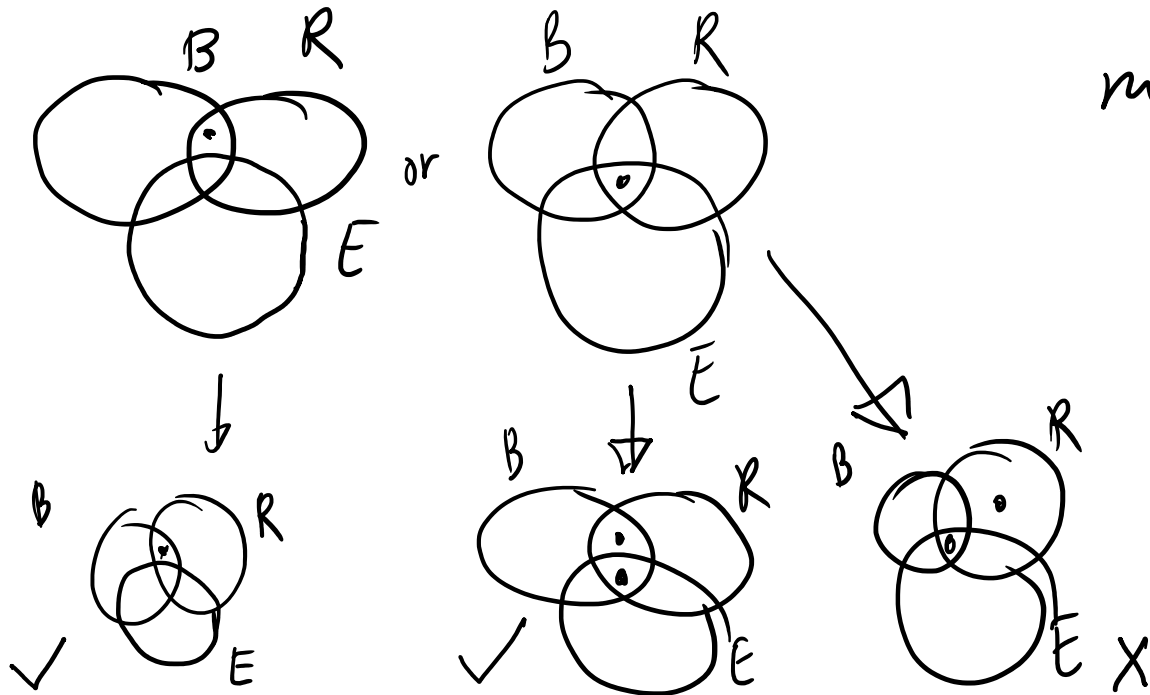
Not all demons are easy \longleftrightarrow ^{Some} exists demons which are not easy
Some demons are blue

Some demons are easy

Invalid conclusion!



Some bananas are rotten
Some rotten things are not edible
Some bananas are not edible



not valid