

$$R|\lambda \neq R$$

$$R = a \quad L(R|\lambda) = \{a, \lambda\} \neq \{a\} = L(R)$$

$$R.S \neq S.R$$

$$R = a \quad S = b \quad L(RS) = \{ab\} \neq \{ba\} = L(SR)$$

$$R.R \neq R$$

$$R = a \quad L(RR) = \{aa\} \neq \{a\} = L(R)$$

$$R|(ST) \neq (R|S).(R|T)$$

$$R = a \quad S = b \quad T = c$$

$$L(R|(ST)) = \{a, bc\} \neq \{aa, ac, ba, bc\} = L((R|S).(R|T))$$