



# UNIFICATION MODULO BOOLEAN RINGS

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# Structure

Equational Unification

BR-Unification

# Equational Unification

$$S := \left\{ f(a, x) \stackrel{?}{\approx} x \right\}$$

# Equational Unification

$$I := \{f(x, x) \approx x\}$$

$$S := \left\{ f(a, x) \overset{?}{\approx} x \right\}$$

# Equational Unification

$$I := \{f(x, x) \approx x\}$$

$$S := \left\{ f(a, x) \overset{?}{\approx} x \right\} \quad \Rightarrow \quad S := \left\{ f(a, x) \overset{?}{\approx}_I x \right\}$$

# Unification Classes

Let  $S$  be an I-unification problem

$$\text{elementary: } S := \left\{ f(y, x) \stackrel{?}{\approx}_I x \right\}$$

$$\text{with constants: } S := \left\{ f(a, x) \stackrel{?}{\approx}_I x \right\}$$

$$\text{general: } S := \left\{ f(g(a), x) \stackrel{?}{\approx}_I x \right\}$$

# BR-Unification