

State Space Reduction

Verifying a data structure under garbage collection is sound, if data structure + SMR spec it is free from ABAs.

Theorem 1:





For an ABA check of data structure + SMR spec, it is sound to restrict re-allocations to a single address.

(Side condition: **SMR spec** is invariant to re-allocations.)

Theorem 2:

State Space Reduction

Theorem 1:

Verifying a data structure under garbage collection is sound, if data structure + SMR spec it is free from ABAs.

• Theorem 2:

For an ABA check of data structure + SMR spec, it is sound to restrict re-allocations to a single address.

(Side condition: SMR spec is invariant to re-allocations.)

Our Approach

SMR impl = SMR spec

Data structure + SMR spec = Property

Data structure + SMR impl ⊨ Property