

Resolution of preferences

These preferences are contradictory:

acceptable
preferences

- + S1 has a thing B1
- + S1 has a thing B2
- + S1 has a thing B3
- + S1 has a thing T1

preferences for
identifier S1
attribute thing

+B1 +B3
+B2 +T1

These preferences are contradictory because they suggest different values for the same identifier (S1) and attribute (thing).

If these are the only preferences for the identifier–attribute pair, Soar will reach an impasse.

Solution 1: create fewer preferences

preferences for
identifier S1
attribute thing

+B2

If there is only one value suggested, there is no conflict.

With this preference, only one working memory element would be created for this identifier and attribute, and S1 would have only one thing, B2.

Solution 2: create more preferences (add parallel preferences)

e.g., allow multiple values for the attribute, by adding parallel preferences

preferences for
identifier S1
attribute thing

+B1 +B3 &B1
+B2 +T1 &B2
&B3
&T1

The parallel preferences (denoted "&") say that the value can coexist in working memory with other values for the same identifier and attribute.

All four of these parallel preferences must be created to avoid an impasse for this identifier and attribute. With all eight of these preferences, four working memory elements will be created, and S1 will have four things, B1, B2, B3, and T1.

Solution 3: create more preferences (add specific preferences)

e.g., add additional preferences so that only one value will be chosen

preferences for
identifier S1
attribute thing

+B1 +B3 >B1
+B2 +T1

The preference added here, >B1, is just an example. It says that B1 is the BEST value to select.

With these preferences, only one working memory element would be created for this identifier and attribute, and S1 would have only one thing, B1.