imp → Clips → Stratigies (Build-in rules To Conflict Resolution) ✓✓

Conflict Resolution

Computer Thinking

happen When more Than one rule march same Fact. (more Than rule Fires)

Forward chaining → Put Fact into Working memory (WM) → matching Facts With rules LHS → Conflict resolution Select one rule → Put deduction in Wm

depend on Strategy result

Backward Chaining → Put goal into Wm → match goal with rules RHS → Select one rule (Conflict Resolution) → Put Premises as Sub-goals into Wm

→ What to do If There is more Than 1 matching rule in each inference cycle?

To do / Solve Conflict Resolution

- → Conflict Set = Set of rules Which match the Working memory Content in each inference cycle (in agenda)
- → Type of rules = deterministic | non-deterministic

False	deterministic	non-deterministic
0 rule matched	atmost 1 rule matched	more than 1 matching rule → (Conflict Resolution) ✓
		Inference engine must Select one rule

→ agenda = is the list of all rules Which have Their Conditions Satisfied

→ agend operate as a stack (Top rule on The agenda is The first one to be Executed).

→ LIFO

Salience = Priority in Clips Top (higher Salience)

If have more Than one equal Salience → Conflict Resolution

→ When a rule is newly activated, It's Placement on The agenda is based on Factors:-

a) Placed above all roles of lower Salience & below all rules of higher Salience

b) among rules of equal Salience, Conflict Resolution used To determine The Placement

c) If a rule is activated → by assertion or retraction of a Fact Then The rule is arbitrarily (not randomly) ordered

11 Strategy but

→ 7 Stratigies in Clips. → The default is (depth)

(Set-Strategy name of Strategy) → Command which will reorder The agenda based on The new Strategy
ex: breath
↳ Change default

1) Depth

newely activated rules are placed above all rules of The same Salience

Ex: Fact a → activates rule 1,2 , Fact b → activates rule 3,4

a assert before b

rule 3,4 above rule 1,2 on The agenda

2) Breath

newely activated rules are placed below all rules of The same Salience

Ex: Same

rule 1,2 above rule 3,4 on the agenda

3) Simplicity Among rules of The same salience, newely activated rules are Placed above all activations of rules with equal or higher Specificity

higher → execute

equal → depth

4) Complexity Among rules of The same Salience, newely activated rules are Placed ~~above~~ below all activations of rules with equal or lower Specificity

5) LEX

- every Fact & instance is marked internally with a Time tag. (The activation with The greater Time is Placed before on The agenda).
- receny (rules That use recently added data) of the Pattern entities
  ↳ highest Priority
- IF 2 activation have exact same recency. The activation with The higher Specificity is placed above The lower.
  الأكثر تخصيصاً هو الأعلى Priority

6) MEA (Means_Ends Analysis)

- First The Time Tag of The Pattern entity associated with the First Pattern is used To determine Where To Place The activation.
- The activation of the First Pattern Time Tag With greater is placed before
- IF activation have The Same Time Tag associated with The First Pattern Then The LEX strategy is used.

7) Random

- Each activation is assigned with Random number (based on index) is used To determine its Placement among activations of Equal Salience

→ all Strategies has a Feedback to make Sure There is no Conflict

Which Strategy is Faster ?

Compare between The Following Stratigies In clips according To your case study

- Simplicty , Complexity , LEX, Random