

# 1 Seminaive Evaluation

## 1.1 Non-Distributed Algorithm

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1.  ARGUMENTS : (P, I)
2.  RETURN : P(I)
3.  P' := {rule : rule ∈ rules(P) ∧ idb(P) ∩ body(rule) = ∅}
4.  ∀S ∈ idb(P) : S := ∅
5.  ∀S ∈ idb(P) : ΔS1 := P'(I)(S)
6.  i := 1
7.  DO
8.    FOR S ∈ idb(P)
9.    BEGIN
10.     PS := {rule : rule ∈ rules(P) ∧ S = head(rule)}
11.     T := ⋃rule ∈ PS body(rule)
12.     Si := Si-1 ∪ ΔSi
13.     ΔSi+1 := PSi(I, Ti-1, Ti, ΔTi) - S
14.    END
15.    i := i + 1
16.  UNTIL ∀S ∈ idb(P) : ΔSi = ∅

```

## 1.2 Distributed Streaming Algorithm

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REMOVE I AS ARGUMENT AND USE IO DIRECTIVES HERE
ARGUMENTS : (P, I)
RETURN : P(I)
P' := {rule : rule ∈ rules(P) ∧ idb(P) ∩ body(rule) = ∅}
∀S ∈ idb(P) : S := ∅
∀S ∈ idb(P) : ΔS1 := P'(I)(S)
CONSUME AND MERGE ALL INPUT RELATIONS HERE
i := 1
DO
  FOR S ∈ idb(P)
  BEGIN
    PS := {rule : rule ∈ rules(P) ∧ S = head(rule)}
    T := ⋃rule ∈ PS body(rule)
    Si := Si-1 ∪ ΔSi
    ΔSi+1 := PSi(I, Ti-1, Ti, ΔTi) - S
    PRODUCE DELTA i + 1 HERE
    CONSUME AND MERGE WITH DELTA i + 1 HERE
  END
  i := i + 1
UNTIL ∀S ∈ idb(P) : ΔSi = ∅

```