Algorithm 2: A part of Relationship Traversal Algorithm

Input: *Syntax tree node with subtrees*

// Traverse the node with (3 or more) subtrees
// *Node.LeftS*: process composed of leaf nodes of the left subtree
// *Node.RightS*: process composed of leaf nodes of the right subtree
// *Name*: identifier of a defined process
// *Def*: "definitionLeft" of a subtree

1 **if** *VisitEqual (Node.MiddleS)* **then** // "="operator, meet process definition
2 add *Node.RightS* to *Init*[*Node.LeftS.Name*];
3 add *Node.LeftS.Name* to *Node*[*Node.RightS*];
4 **if** *VisitDef (Node)* **then** // meet the left part of a process definition
5 add *Node.Name* to *Init*[*Node*];
6 add *Node* to *Node*[*Node.Name*];
7 **if** *VisitPME(Node)* **then** // meet a parallel multi-instance task or process
8 get *InsNum*, *MsgNum* (if exists) and *TaskContent*;
9 add *TaskContent* to *Init*[*Node*];
10 add *Node* to *End*[*TaskContent*];
11 **if** *VisitSME(Node)* **then** // meet a sequential multi-instance task or process
12 get *InsNum*, *MsgNum*(if exists) and *TaskContent*;
13 add *TaskContent* to *Init*[*Node*];
14 add *Node* to *End*[*TaskContent*];
15 **if** *VisitTME(Node)* **then** // meet a time-bounded multi-instance task
16 get *InsNum*, *MsgNum*(if exists),*Duration* and *TaskContent*;
17 add *TaskContent* to *Init*[*Node*];
18 add *Node* to *End*[*TaskContent*];
19 **return** *Next*, *End*, *Init*, *And*, *Xor*;