

**Input:** Variable *var* at *code* of function *func*

**Output:** Return true if copy of *var* can be removed at *code* of function *func*

1: **Variables**

*LiveAnalyser*: live variable analyser, *ReadWriteAnalysis*: Read-Write analyser, *ReturnAnalysis*: Return analyser

2: **end Variables**

3: **procedure** IS\_COPYELIMINATED(*var*, *code*, *func*)

4:   **if** *var* is array type **then**

5:      $isLive \leftarrow liveAnalyser.ISLIVE(var, code, func)$

6:     **if**  $\neg isLive$  **then** // *var* is NOT live at *code* at caller

7:       **return** true // Copy can be removed

8:     **end if**

9:     **if** *code* is a function call **then** // Special check for passing parameter

10:        $fParam \leftarrow \text{map } var \text{ to formal parameter at called function } callee$

11:        $isMutate \leftarrow ReadWriteAnalysis.ISMUTATED(fParam, callee)$

12:        $isReturn \leftarrow ReturnAnalysis.ISRETURNED(fParam, callee)$

13:       **if**  $\neg isMutate$  AND  $\neg isReturn$  **then**

14:          **return** true // Copy can be removed

15:       **end if**

16:     **end if**

17:   **end if**

18:   **return** false // Copy is needed in all other cases

19: **end procedure**