

Input: Function call in function *func* at WyIL level

Output: A *list* of code after a function call

1: **Variables**

DeallocAnalyser: De-allocation analyser

VarStore: A variable set stores the names of temporary variables

2: **end Variables**

3: **procedure** OPTIMISE_POSTFUNCTIONCALL(*code*, *func*)

4: *list* = []

5: *ret* = function return variable at *code*

6: **for** *index* $\leftarrow 0$; *index* < |*params*|; *index* ++ **do**

7: **if** *param* is An Array **then**

8: *macro* \leftarrow *DeallocAnalyser.choosePostMacro*(*param*, *code*, *func*)

9: **if** *ret* is an Array **then**

10: **switch** *macro* **do**

11: **case** RETAIN

12: *list.append*(" RETAIN_DEALLOC_POST(*ret*, *param*) ")

13: **case** RESET

14: *list.append*(" RESET_DEALLOC_POST(*ret*, *param*) ")

15: **case** CALLER

16: *tmp* \leftarrow *VarStore*(*index*, *code*, *func*)

17: *list.append*(" CALLER_DEALLOC_POST(*ret*, *tmp*) ")

18: **case** CALLEE

19: *list.append*(" CALLEE_DEALLOC_POST(*ret*, *tmp*) ")

20: **else if** *macro* == CALLER **then**

21: *list.append*(" free(*tmp*); ") // Free extra copy

22: **end if**

23: **end if**

24: **end for** // Ending post macro

25: **return** *list*

26: **end procedure**