Correction Exercice 3 du TD n° 4

mémoire initiale : m_4 = <fct, 12, meth, entier> . <t, @tas, tab, entier> . <x, 3, var, entier> . <C, w, var, *> + @tas : [6, 6, 6,_]

[affectationT]$_{52}$: $m_4 \vdash$ affectation(tab(ident(t), 54), 56) $\rightarrow m_{12}$ = AffecterValT(t, ind$_0$, v_0, m_4)
avec m_{12} = AffecterValT(t, 3, 6, m_4) avec $m_{12} = m_4 + @tas : [6, 6, 6, 6]$
[appelE]$_{56}$: $m_4 \overset{eval}{\vdash}$ appelE(57, 58) $\Rightarrow v_0 = 6$
[appelI]$_{56}$: $m_4 \vdash$ appelI(ident(fct), 58) $\rightarrow m_0$
m_5 = ExpParam(58, Parametre(fct, m_4), m_4) = ExpParam(58, 14, m_4) = $< max, 1, var, entier > .m_4$
[vars]$_{18}$: $m_5 \vdash$ Déclaration(fct,m_5) = vars(19, 22)$\rightarrow m_6$
[var]$_{19}$: $m_5 \vdash$ var(entier, ident(y), 21) $\rightarrow m_6$ = DeclVar(y, v_1, entier, m_5, 0), avec $m_6 =< y, 5, var, entier > .m_5$
[nbre]$_{21}$: $m_5 \overset{eval}{\vdash}$ nbre(5) $\Rightarrow v_1$ =5
[vnil]$_{22}$: $m_6 \vdash$ vnil $\rightarrow m_6$
[instrs]$_{23}$: $m_6 \vdash$ Corps(fct,m_6) = instrs(24, 39) $\rightarrow m_9$
[tantquevrai]$_{24}$: $m_6 \vdash$ tantque(25, 28) $\rightarrow m_8$
[>]$_{25}$: $m_6 \overset{eval}{\vdash}$ >(26, 27) $\Rightarrow v_2 > v_3 = 1 > 0$ = true
[ident]$_{26}$: $m_6 \overset{eval}{\vdash}$ ident(max) $\Rightarrow v_2 = 1$
[nbre]$_{27}$: $m_6 \overset{eval}{\vdash}$ nbre(0) $\Rightarrow v_3$ =0
[instrs]$_{28}$: $m_6 \vdash$ instrs(29, 32) $\rightarrow m_8$
[somme]$_{29}$: $m_6 \vdash$ somme(ident(y), 31) $\longrightarrow m_7$ = AffecterVal(y, Val(y, m_6)+v_4, m_6)
avec m_7 = AffecterVal(y, 5+1, m_6) = <y, 6, var, entier> .m_5
[ident]$_{31}$: $m_6 \overset{eval}{\vdash}$ ident(max) $\Rightarrow v_4 = 1$
[instrs]$_{32}$: $m_7 \vdash$ instrs(33, 38) $\rightarrow m_8$
[affectation]$_{33}$: $m_7 \vdash$ affectation(ident(max), 35) $\rightarrow m_8$ = AffecterVal(max, v_5, m_7)
avec m_8 = AffecterVal(max, 0, m_7), m_8 =<y, 6, var, entier> . <max, 0, var, entier> .m_4
[-]$_{25}$: $m_7 \overset{eval}{\vdash}$ -(36, 37) $\Rightarrow v_5 = v_6 - v_7 = 1 - 1 = 0$
[ident]$_{35}$: $m_7 \overset{eval}{\vdash}$ ident(max) $\Rightarrow v_6 = 1$
[nbre]$_{37}$: $m_7 \overset{eval}{\vdash}$ nbre(1) $\Rightarrow v_7 = 1$
[inil]$_{38}$: $m_8 \vdash$ inil $\rightarrow m_8$
[tantquefaux]$_{24}$: $m_8 \vdash$ tantque(25, 28) $\rightarrow m_8$
[>]$_{25}$: $m_8 \overset{eval}{\vdash}$ >(26, 27) $\Rightarrow v_8 > v_9 = 0 > 0 = false$
[ident]$_{26}$: $m_8 \overset{eval}{\vdash}$ ident(max) $\Rightarrow v_8 = 0$
[nbre]$_{27}$: $m_8 \overset{eval}{\vdash}$ nbre(0) $\Rightarrow v_9 = 0$
[instrs]$_{39}$: $m_8 \vdash$ instrs(40, 42) $\rightarrow m_9$
[retour]$_{40}$: $m_8 \vdash$ retour(ident(y)) $\rightarrow m_9$ = AffecterVal(VariableClasse(m_8), v_{10}, m_8) = AffecterVal(C, 6, m_8)
avec m_9 =<y, 6, var, entier>.<max, 0, var, entier>.<fct, 12, meth, entier>.<t, @tas, tab, entier> .
<x, 3, var, entier> . <C, 6, var, entier>.[]
[ident]$_{40}$: $m_8 \overset{eval}{\vdash}$ ident(y) $\Rightarrow v_{10} = 6$
[inil]$_{42}$: $m_9 \vdash$ inil $\rightarrow m_9$
[rvars]$_{18}$: $m_9 \overset{retrait}{\vdash}$ Déclaration(fct, m_9) = vars(19, 22) $\rightarrow m_{10}$
[rvnil]$_{22}$: $m_9 \overset{retrait}{\vdash}$ vnil $\rightarrow m_9$
[rvar]$_{19}$: $m_9 \overset{retrait}{\vdash}$ var(entier, 20, 21) $\rightarrow m_{10}$ = RetirerDecl(y, m_9) avec m_{10} =<max, 0, var, entier>.
<fct, 12, meth, entier>.<t, @tas, tab, entier>.<x, 3, var, entier>.<C, 6, var, entier>.[]
[rentetes]$_{14}$: $m_{10} \overset{retrait}{\vdash}$ Parametre(fct, m_{10}) = entetes(15, 17) $\rightarrow m_{11}$
[renil]$_{17}$: $m_{10} \overset{retrait}{\vdash}$ enil $\rightarrow m_{10}$
[rentete]$_{15}$: $m_{10} \overset{retrait}{\vdash}$ entete(entier, 16) $\rightarrow m_{11}$ = RetirerDecl(max, m_{10})
avec m_{11} =<fct, 12, meth, entier> . <t, @tas, tab, entier> . <x, 3, var, entier> . <C, 6, var, *>.[]
[ident]$_{56}$: $m_{11} \overset{eval}{\vdash}$ VariableClasse (m_{11}) = ident(C) $\Rightarrow v_0 = 6$
[ident]$_{55}$: $m_4 \overset{eval}{\vdash}$ ident(x) $\Rightarrow$ ind$_0$ = Val(x, m_4) = 3