

B. CSE Machine Rules

	CONTROL	STACK	ENV
Initial State	$e_0 \delta_0$	e_0	$e_0 = PE$
CSE Rule 1 (stack a name)	.... Name ....	.... Ob	Ob=Lookup(Name, e_c) e_c :current environment
CSE Rule 2 (stack λ)	.... λ_k^x	$^c \lambda_k^x$	e_c :current environment
CSE Rule 3 (apply rator)	.... γ	Rator Rand Result	Result=Apply[Rator,Rand]
CSE Rule 4 (apply λ)	.... γ $e_n \delta_k$	$^c \lambda_k^x$ Rand e_n	$e_n = [Rand/x]e_c$
CSE Rule 5 (exit env.)	.... e_n	value e_n value	
CSE Rule 6 (binop)	.... binop	Rand Rand Result	Result=Apply[binop,Rand,Rand]
CSE Rule 7 (unop)	.... unop	Rand Result	Result=Apply[unop,Rand]
CSE Rule 8 (Conditional)	.... $\delta_{then} \delta_{else} \beta$ true		
CSE Rule 9 (tuple formation)	.... τ_n	$V_1 \dots V_n$ (V_1, \dots, V_n)	
CSE Rule 10 (tuple selection)	.... γ	$(V_1, \dots, V_n) I$ V_I	
CSE Rule 11 (n-ary function)	.... γ $e_m \delta_k$	$^c \lambda_k^{V_1, \dots, V_n}$ Rand e_m	$e_m = [Rand 1/V_1] \dots$ $[Rand n/V_n]e_c$
CSE Rule 12 (applying Y)	.... γ	$Y ^c \lambda_i^v$ $^c \eta_i^v$	
CSE Rule 13 (applying f.p.)	.... γ $\gamma \gamma$	$^c \eta_i^v R$ $^c \lambda_i^v ^c \eta_i^v R$	