Instructions	State Information	
	IF	
	IR	NM: Non Modify Flag
PC → mem_addr/alux_a	NM	NA: No Read/Write Operations
mem_do → ir	S1(HKT)	DR: Data Read
+1 → alux_b alux_c → PC		DW: Data Write
<u> </u>	ID	IR: Instruction Read
	NA	
ir[9:11] → rf_a1	NM	
ir[6:8] → rf_a2	S2	
$rf_d1 \rightarrow ta$ $rf_d2 \rightarrow tb$		
_	EX	
	NA	
	mod c and z	
ta → aluy_a	S3	
tb → aluy_b aluy_c →ta		
	WB	
	NA	
	NM	
$ta \rightarrow rf_d3$ $ir[3:5] \rightarrow rf_a3$	S4	
[0.0] → II_a0		
	EX	
	mod z, c	
	NA	
$ta \rightarrow aluy_a$ $ir[0:5] \rightarrow SE6 \rightarrow aluy_b$	S5	
aluy_c → ta		
	EX	
	mod c and z	
	NA	
ta → aluy_a tb → Lshifter_1 → aluy_b	S6	
aluy_c → ta		
	ID	
	NA	
	NM	
$ir[0:8] \rightarrow Lshifter_7 \rightarrow rf_d3$	S7	
ir[9:11] → rf_a3		
	EX	
	NA	
irlo.E1 . CEC . chin. b	NM	
$ir[0:5] \rightarrow SE6 \rightarrow aluy_b$ $tb \rightarrow aluy_a$	S8	
aluy_c → ta		

	I	
	MA	
	DR	
	NM	
ta mom addr	S9	
ta → mem_addr mem_do → tc		
_======================================	ID	
	NA	
	NM	
	S10	
$tc \rightarrow rf_d3$ $ir[9:11] \rightarrow rf_a3$	010	
	WB	
	DW	
	NM	
ta → mem_di	S11	
$tb \rightarrow mem_addr$ PC \rightarrow R7		
F 0 → 107	ID	
	NA	
	NM	
	S12	
$ir[0:8] \rightarrow SE9 \rightarrow tb$		
	MA	
$tb \rightarrow PE_in$	DR	
PE_out → tb	NM	
PE_enc → td ta → mem_addr	S13	
mem_do → tc		
	EX	
td → rf_a3	NA	
$tc \rightarrow rf d3$	NM	
ta → aluy_a	S14	
+1 → aluy_b aluy_c → ta		
	RR	
	NA	
	NM	
tb → PE_in	S15	
PE_enc → td PE_out → tb		
	EX	
	NA	
	NM	
	S16	
$td \rightarrow rf_a1$ $rf_d1 \rightarrow tc$	310	

to mom oddr		
ta → mem_addr tc → mem_di	DW	
ta → alux_a		
$+1 \rightarrow alux_b$	NM	
alux_c → ta	S17	
PC → R7		
	NA	
ta → aluy_a	mod tz	
tb → aluy_b	S18	
111 → rf_a1	510	
rf_d1 → ta		
	NA	
to aluva		
ta \rightarrow aluy_a ir[0:5] \rightarrow SE6 \rightarrow aluy_b	NM	
$\begin{array}{c} [0.5] \rightarrow 3 \succeq 0 \rightarrow a dy_b \\ a $	S19	
aldy_6 >1 G, R7		
	NA	
	NM	
444 6 . 4	S20	
111 → rf_a1 rf_d1 → tc		
11_d1 → tc		
	NA	
ir[0:8] → SE9 → aluy_a	NM	
$tc \rightarrow aluy b, rf d3$	S21	
aluy_c → PC,R7	321	
ir[9:11] → rf_a3		
	NA	
	NM	
tc → rf d3		
$tc \rightarrow rf_d3$ $tb \rightarrow PC,R7$	S22	
ir[9:11] → rf_a3		
	NA	
 ir[9:11] → rf_a1	NM	
[a.ii] → ii_ai rf_d1 → ta	S23	
$Ir[0:8] \rightarrow ta$ $Ir[0:8] \rightarrow SE9 \rightarrow tb$		
	NA	
	NM	
	S24	
ta -> PC		
u - 10		

	NA	
	NM	
	S25	
PC -> R7		
	NA	
	NM	
	S26	
$ir[0:8] \rightarrow Lshifter_7 \rightarrow PC$		
	EX	
	NA	
	NM	
ir[0:5] → SE6 → aluy_b tb → aluy_a aluy_c → tb	S27	
aluy_c → tb		